THE

CARNEGIE UNITED KINGDOM TRUST

REPORT ON THE PHYSICAL WELFARE OF MOTHERS AND CHILDREN

VOL. IV.—IRELAND

General Report
Principal Recommendations
Reports on Three County Boroughs
Memorandum
Statistics and Causes of Death
Reports of Medical Officers of Health

1917

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Presented by

The Carnegie United Kingdom Trust.

October. 19 17.

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CARNEGIE UNITED KINGDOM TRUST

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SCOTLAND

VOLUME THREE

Introductory Letter
Report
Appendix and Illustrations

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SCOTTISH MOTHERS AND CHILDREN

SCOTLAND—MOUNTAINS, VALLEYS, RIVERS

On the same Scale.
SHETLAND ISLANDS
ORKNEY ISLANDS
ATLANTIC OCEAN
NORTH SEA
Pentland Firth
Moray Firth
Little Minch
North Minch
Sound of Harris
Sound of Skye
Firth of Lorne
Firth of Clyde
Firth of Forth
North Channel
Solway Firth
Gulf of the Hebrides
Luce Bay
Loch Broom
Loch Ericort
Loch Shiel
Loch Linnhe
Loch Etive
Loch Fyne
Loch Lomond
Loch Awe
Loch Tay
Loch Rannoch
Loch Ness
Loch Lochy
Loch Arkaig
Loch Shiel
Loch Eil
Loch Leven
Loch Maree
Loch Broom
Loch Torridon
Loch Carron
Loch Alsh
Loch Duich
Loch Hourn
Loch Nevis
Loch Morar
Loch Shiel
Loch Sunart
Loch Linnhe
Loch Etive
Loch Creran
Loch Leven
Loch Eil
Loch Arkaig
Loch Lochy
Loch Ness
Loch Oich
Loch Garry
Loch Rannoch
Loch Tay
Loch Earn
Loch Lomond
Loch Awe
Loch Fyne
Loch Striven
Loch Long
Loch Goil
Loch Gilp
Loch Indaal
Loch Gruinart
Loch Ryan
Loch Doon
Loch Trool
Loch Dee
Loch Ken
Loch Skerrow
Loch Urr
Loch Fleet
Loch Brora
Loch Shin
Loch Assynt
Loch Inver
Loch Eriboll
Loch Hope
Loch Stack
Loch Naver
Loch Loyal
Loch Calder
Loch Watten
Loch Scarmclate
Loch Leven
Loch Fitty
Loch Ore
Loch Glow
Loch Skene
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Loch Arthur
Unst
Fetlar
Yell
Whalsay
Bressay
Burra
Foula
Fair I.
North Ronaldsay
Sanday
Westray
Papa Westray
Rousay
Egilsay
Stronsay
Eday
Pomona
Shapinsay
Mainland
Hoy
South Ronaldsay
Cape Wrath
Butt of Lewis
Stornoway
Tarbat Ness
Duncansby Head
Dunnet Head
Strathy Point
Kyle of Durness
Kyle of Tongue
Ben Hope
Ben Loyal
Ben Klibreck
Ben More Assynt
Suilven
Stack Skerry
Sule Skerry
Sula Sgeir
North Rona
Flannan Is.
Shiant Is.
Monach Is.
Barra Head
Mull of Kintyre
Ailsa Craig
Sanda I.
Paps of Jura
Corryvreckan
Gulf of Corryvreckan
Isle of Lewis
Harris
North Uist
Benbecula
South Uist
Barra
Eriskay
Skye
Raasay
Rum
Canna
Muck
Eigg
Coll
Tiree
Colonsay
Oronsay
Jura
Islay
Gigha
Arran
Holy I.
Cumbrae
Bute
Inchmarnock
Kerrera
Lismore
Mull
Iona
Staffa
Ardnamurchan Pt.
Muck
Eigg
Rum
Canna
Sanday
Barra
Eriskay
Benbecula
North Uist
South Uist
Harris
Lewis

THE CARNEGIE UNITED KINGDOM TRUST

SCOTTISH MOTHERS AND CHILDREN

BEING REPORT ON THE PHYSICAL WELFARE OF MOTHERS AND CHILDREN

SCOTLAND

BY

W. LESLIE MACKENZIE,

M.A., LL.D., M.D., D.P.H., F.R.C.P.E., F.R.S.E.,

Medical Member of the Local Government Board for Scotland

THE CARNEGIE UNITED KINGDOM TRUST

EAST PORT, DUNFERMLINE

1917

PRINTED IN GREAT BRITAIN BY
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EDINBURGH

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PREFATORY NOTE

The Carnegie United Kingdom Trustees have taken steps to secure comprehensive Reports on the existing provision for promoting the Physical Welfare of Mothers and Young Children because the rate of infantile mortality and its predominant causes, as well as the health-supervision of children from infancy to the age of admission to school, are—in their opinion—among the most important problems of the present day.

It is hoped that the Reports in question may be the means of assisting the solution of the various difficult questions involved by setting out the facts in relation to one another and by placing at disposal the views of accepted medical authorities on the subject.

The Trustees have decided to publish the Reports forthwith, and before they have had an adequate opportunity for deciding what steps, if any, might be taken by them in connection with the problem. The Trustees do not commit themselves to the lines of policy or to the recommendations which have been submitted for their consideration other than those on which they have indicated publicly their intentions.

The Reports have been compiled by E. W. Hope, Esq., M.D., D.Sc., Medical Officer of Health for Liverpool, and by Miss Janet M. Campbell, M.D., M.S., one of the Senior Medical Officers of the Board of Education, in respect of England and Wales; by W. Leslie Mackenzie, Esq., M.A., M.D., LL.D., F.R.C.P.E., F.R.S.E., Medical Member of the Local Government Board for Scotland, as far as Scotland is concerned; and by E. Coey Bigger, Esq., M.D., M.Ch., Medical Commissioner of the Local Government Board for Ireland, in respect of Ireland. The volume, to which this is a prefatory note, has been compiled by Dr W. Leslie Mackenzie.

The three countries are in different stages of administrative development in the provision for the health of mothers and children; each Report, consequently, proceeds on the lines suggested by the predominant problems of the particular country with which it is

concerned. Though the general effect is substantially the same, no effort has been made to secure uniformity of exposition.

In publishing these Reports, the Trustees desire to express their indebtedness to the Government Departments which have kindly consented to allow their officials to undertake the work of compiling the Reports, and to the city of Liverpool for a similar act of courtesy.

The Trustees also wish to thank the several Government Departments concerned, and their representatives, for putting at the disposal of the reporters not only statistical information in their possession, but most valuable co-operation and assistance. It is to be understood that the views expressed are the considered individual opinions of those who have prepared the Reports.

To all Municipalities and other Local Authorities, and to the Medical Officers of Health in the United Kingdom, the Trustees also express their sincere thanks for kindly co-operation.

C. L. Hetherington.

Secretary,

CARNEGIE UNITED KINGDOM TRUST.

INTRODUCTORY LETTER

LOCAL GOVERNMENT BOARD,
EDINBURGH, 9*th October* 1917.

To

A. L. HETHERINGTON, Esq., *Secretary*,
CARNEGIE UNITED KINGDOM TRUST,
DUNFERMLINE.

SIR,—In accordance with the request of the Carnegie United Kingdom Trustees, I have pleasure in now sending you a Report on the Physical Welfare of Scottish Mothers and Children.

In your letter of 3rd January 1916, you informed me that the Carnegie United Kingdom Trustees had decided to procure Reports for the three Kingdoms under the following terms of reference :—

> "To investigate and report upon the existing provision for promoting the Physical Welfare of Mothers and Children, with special reference to the existing provision of Schools for Mothers, Health Houses, etc.; the legislation that exists for governing the administration of such centres, and the extent to which municipal authorities have availed themselves of the powers they possess in the matter. Further, to suggest whether any, and if so what, steps might be taken by the Trustees to encourage the provision of such centres, and under what conditions."

In a subsequent letter, dated 6th July 1916, you explained that it would be an advantage to the Trustees if I should include some investigation of the particular question of Play Centres.

My Report was undertaken with the express approval of The Right Honourable T. MacKinnon Wood, M.P., at that date His Majesty's Secretary for Scotland and President of the Local Government Board for Scotland.

Of necessity, I have had to record many personal views; but for these I am alone responsible. In presenting the facts collected or selected from so many sources, I have had to mention some

public bodies, both central and local; but I have scrupulously avoided all discussion of departmental policy.

One further preliminary point: at our first interview in 1916 I stated that I could undertake this Report only if the Royal Commission on Housing (Scotland) were not required to present its Report within the year. It was, however, decided that the Housing Report should not be presented until after the war, and I proceeded to organise the investigation for the Trust. But before the end of 1916 circumstances led to a revival of the Commission, and my work as a member of it, no less than my official work as a member of the Local Government Board and of the Highlands and Islands (Medical Service) Board, made it impossible for me to complete the present Report at an earlier date. I regret that the Scottish Report should thus have to appear so long after the English and Irish Reports. But perhaps the disadvantage is more apparent than real; for, meanwhile, your Trustees have made a definite announcement of their national policy, and I am able to offer them my Report as a contribution to its practical realisation.

At a time, too, when the housing demand has gathered a momentum never before known, the appearance of this Report along with the Report of the Scottish Royal Commission on Housing makes more obvious than my chapters by themselves could have done how much the problems of the mother and her child are problems of housing, and how essential to the good life of a people it is to fit every man's house to be a home.

In this survey of medical, statistical, social, and administrative materials I have tried to preserve freshness of outlook on the facts. The desire to do this dictated in part the methods of collecting the information. But there was another determining factor. From my daily work at the Local Government Board, I knew that all over Scotland the officials of parishes, municipalities, and counties were working at high pressure with reduced staffs. The same was true of the officials of the great voluntary hospitals and organisations. Accordingly, to economise energy, our investigators visited the places, made notes of their inspections, interviewed officials, took records of their views, obtained from them directly such relevant printed or written matter as was readily available, and received verbally much valuable direction in a very complicated inquiry. The data thus gathered were supplemented from reports provided

by medical officers of health, hospitals, homes, and other organisations. To these sources I was able to add contributions from the staff of the Scottish Insurance Commissioners, who, through their inspector, Mr Highton, kindly placed at my disposal a mass of special reports on the working of maternity benefit. Members of the staffs of the Local Government Board for Scotland, of the Highlands and Islands (Medical Service) Board, and of the Registrar-General's Department have also made important contributions.

But perhaps the most interesting sections of the Report are the Special Regional Studies. These are first-hand records of living experience. They contain much that rarely finds its way into print. They are the work of men and women trained in observation and skilled in the recording of it. They are of historical value in the growth of Scottish administration, because they paint with care and skill some of the most elusive phases of the social life of our time.

You notice, too, that, although the statistical tables are numerous, they are kept strictly to the purpose of illustration and persuasion. For my own part, I should gladly have avoided statistical tables altogether, if I had known a more convenient method of conveying the magnitude of our problems. But the Report is intended for readers of various interests, and, in every chapter of it, I have also given such word pictures of individual cases as are likely to find some response in the experience of every social student.

The Report owes much of its matter to medical officers of health, general and consulting medical practitioners, inspectors of poor, health visitors, nurses, secretaries of hospitals, homes, welfare centres, and other institutions for the care of mothers and children. To these all, I record my thanks.

In particular, I wish to thank the following ladies and gentlemen for their special contributions and assistance :—

J. W. Ballantyne, Esq., M.D., F.R.C.P., F.R.S.E., Edinburgh.
A. Bremner, Esq., M.B., Ch.B., D.P.H., Medical Officer of Health for the County of Sutherland.
John Brownlee, Esq., M.A., M.D., D.Sc., D.P.H., F.R.S.E., F.R.S.S., Statistician to the Medical Research Committee, London.
E. P. Calder, Esq., M.B., Ch.B., D.P.H., Interim Medical Officer of Health for the County of Berwick.
Miss Agnes Campbell, B.A., Edinburgh.
Mrs Ethel Cassie, M.B., Ch.B., D.P.H., Interim Medical Officer of Health for the County of Clackmannan.

A. K. Chalmers, Esq., M.D., F.F.P.S.Glas., D.P.H., Medical Officer of Health, Glasgow.

L. D. Cruickshank, Esq., M.D., D.P.H., M.R.C.P.E., Medical Officer and Chief Inspector of Physical Training, Scotch Education Department, Edinburgh.

W. A. Davidson, Esq., Public Health Department, Local Government Board for Scotland, Edinburgh.

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R. Douglas, Esq., M.A., M.D., D.P.H., Medical Officer of Health for the County of Elgin.

Leonard Findlay, Esq., M.D., D.Sc., Glasgow.

A. Dingwall Fordyce, Esq., M.D., F.R.C.P.E., Edinburgh.

Miss Graham, Health Visitor, Inverness.

Mrs Ogilvie Gordon, D.Sc., Ph.D., President, National Union of Women Workers.

Professor Matthew Hay, M.D., Hon. F.R.C.P.Irel., LL.D., Medical Officer of Health, Aberdeen.

J. E. Highton, Esq., Acting Chief Inspector, Scottish Insurance Commission.

A. Grant Macdonald, Esq., M.B., C.M., Uig, Skye.

George A. Mackay, Esq., General Superintendent of Poor for the Highland District.

Alister Mackenzie, Esq., M.A., M.D., F.R.S.E., D.P.H., Principal, Dunfermline College of Hygiene and Physical Training.

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James R. Motion, Esq., Inspector and Clerk, Glasgow Parish Council.

Miss Mary M. Paterson, Commissioner, Scottish Insurance Commission, Edinburgh.

T. E. Saxby, Esq., L.R.C.P.S., L.R.F.P.S., Baltasound, Unst.

Adam Smail, Esq., Poor Law Department, Local Government Board for Scotland, Edinburgh.

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T. Lauder Thomson, Esq., M.D., D.P.H., Medical Officer of Health for the County of Dumbarton.

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Rev. David Watson, D.D., Chairman, National Executive, Scottish Christian Social Union.
E. Watt, Esq., M.D., D.Sc., D.P.H., M.R.C.P.E., Medical Inspector under the Local Government Board for Scotland, Edinburgh.
A. Maxwell Williamson, Esq., M.D., B.Sc., Medical Officer of Health, Edinburgh.

Our thanks are also due to the following for kind permission to use photographs or for the use of blocks :—

G. Freeland Barbour, Esq., Ph.D., Bonskeid, Perthshire.
Profesor Matthew Hay, M.D., Hon. F.R.C.P.Irel., LL.D., Medical Officer of Health for Aberdeen.
H. Hodge, Esq., Publisher, Edinburgh.
Mrs Hope, Superintendent, Toddlers' Playground, Edinburgh.
Mrs Frances Johnston, M.D., Hon. Secretary, Infant Health Centres, Edinburgh.
W. J. S. Macpherson, Esq., Inspector of Poor, Thurso.
A. Robb, Esq., M.A., M.D., D.P.H., Medical Officer of Health for the Counties of Midlothian, Linlithgow, and Peebles.
Robert Barclay, Esq., Secretary, Royal Hospital for Sick Children, Glasgow.
The Secretary, Dunfermline College of Hygiene and Physical Training.
The Secretary, Children's Shelter, Leith.
The Secretary, Hugh Smiley Day Nursery, Paisley.
The Clerk to the School Board, Edinburgh.
Miss Quarrier, Bridge-of-Weir.
The Secretary, Edinburgh Day Nurseries Association.

I wish also to record my appreciation of the beautiful maps specially prepared by Messrs John Bartholomew & Co.; and of the elegant printing executed by Messrs Neill & Co., whose courtesy through a very trying period has been beyond all praise.

I have to thank the Home Office for special permission to use some notes prepared some thirteen years ago by Miss Mary M. Paterson, of the Scottish Insurance Commissioners, as the result of an inquiry into the employment of mothers in the Dundee factories. Miss Paterson was at that time an inspector of factories. Her long experience in the inspection of factories lends to her notes and judgments a special value. As my purpose is not administrative but illustrative, I have, at the wish of the Home Office, removed from the notes such details as might lead to the identification of any factory or person.

Dr Mary Menzies, Lady Medical Inspector under the Local Government Board for Scotland, acted as chief medical investi-

gator. She has contributed many special reports of institutions and organisations. In particular, she prepared the medical analyses embodied in the special study of the Outer Hebrides. To Dr Menzies the Report owes many compact and carefully considered records. Unfortunately, illness prevented her from carrying out several other studies she had planned.

Miss Bertram Ireland acted as Secretary to the Inquiry. She visited, by herself or with some of the other investigators, many of the localities and institutions described. To her skill, tact, and patience in collecting and recording facts, opinions, and impressions, the Report owes much of its most valuable illustrative material. At every stage of the inquiry, from the first organisation to the correcting of proofs, I have profited by her suggestions and criticisms.

Let me now record my appreciation of the opportunity the Carnegie United Kingdom Trustees have given me to set before the Scottish people some leading factors in a great national problem. If, in my effort to exhibit these many phases of national life, I have taken too wide a view of my instructions, the blame, if blame there be, must rest with the Trustees themselves ; for by their generous lead in placing the mothers and children first, and by their splendid offer of an institute for the organisation of study, research, conference, and propaganda, they have induced me to break the limits of official convention and to show, however imperfectly, the intricate play of the social forces that determine whether an individual child shall live or die. Our men, our young men, are falling in battle ; our women are suffering at home ; our children are struggling to find their places in the march. It is only when we look over the whole field that we can understand how much the Trustees, by their fine initiative, have done to help the Scottish nation in securing good conditions of life for all its mothers and children. If I know anything of our people, the response of the nation will be positive and handsome.

I am, Sir,

Your obedient Servant,

W. Leslie Mackenzie.

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THE PHYSICAL WELFARE OF MOTHERS AND CHILDREN

CHAPTER I

DISTRIBUTION OF THE SCOTTISH PEOPLE

1. *Map of Scotland.*—My official praying-machine is a large map of Scotland. It hangs where I can see it every hour of every day. It reminds me that, within the limits of its outlines, there is nothing indifferent, nothing to be ignored, nothing to be neglected. It helps the administrative mind to imagine in closer detail how the 4,760,904 persons that constitute the Scottish people fulfil the various and multitudinous aims of civilisation over the length and breadth of this northern kingdom. It helps us, also, to gather into a working synthesis the local administrations through which the common services are organised—the 33 counties; the 312 public health districts; the 874 civil parishes: through these unit-areas, differing endlessly in size and type, the communities of Scotland are enabled to maintain the civil order necessary for the full uses of life. In our contemplation of the endless flow of the living energies, the map steadies the vision; it gives a groundwork to enable the imagination to watch the play of social forces; it is at once a stimulus to renewed mastery of administrative detail and a guide to the magnitude of local problems.

That is why I place in the front two maps of Scotland: one, an orographical map (Map 1), showing vividly the contours of the land from sea-level to the highest mountain-top; another, a population map (Map 2), showing in a subtly suggestive way the intricate distributions of the various populations. It is the mothers and children, particularly the young children, that we study here; but the mothers and the children up to five are only a section of the population, and, to understand even the limited social problems incident to motherhood and early childhood, we must consider the general conditions that determine the distribution of the people as a whole. These two maps help us to do this.

2. *Conditions Determining General Distribution of People.*—Take first the orographical map, where the levels of the land are shown in different colours (Map 1). If you let your eye rest on it, you are struck by the masses of green in the great midland valley, which runs from the Firth of Clyde to the North Sea north-eastward. If you draw a line on the map from Rothesay, at the north end of Bute, to the city of Aberdeen, you will mark off roughly the valley's north-western boundary. If you draw another line from Girvan to Dunbar, you will mark off roughly its south-eastern boundary. With the exception of a few blocks named the "northern heights of the lowlands" and "the southern heights of the lowlands," the great midland valley is all marked green or light green, which means that none of it is beyond 500 feet over sea-level, and the great mass of it lies just above sea-level.

Look, for a moment, to the land north and west of the line that joins Rothesay and Aberdeen. There you see a vast area of country ranging in colour from reddish brown to pure white, which means that the land ranges in height from 1000 to over 4000 feet above sea-level. If you look to the Aberdeen end of the line, you find that this great block of mountains tails off in a small eastern spur. If you pass round this spur, you come on the great headland that constitutes the counties of Aberdeen, Banff, and Elgin. As the eye travels westward towards Inverness, the margin of green sea border gets less, though it is still considerable. But across the Moray Firth you can see that once more, in the Black Isle and Easter Ross, the green predominates; but as you go northward into Sutherlandshire the fringes of green grow less, until once again there is an expansion in the headland that constitutes the county of Caithness. If we pass round the coast of Caithness, westward along the Pentland Firth, we find the green areas growing less and less, the altitudes passing suddenly from sea-level to the 1000-feet level. This feature repeats itself many times all down the west coast, where the green margin forms simply a decoration to the innumerable headlands from Cape Wrath to Mull of Cantyre.

But everywhere the eye follows the green strips that wander in from the open sea lochs, or fringe the margins of the inland lakes. As you go down from Inverness along the narrow mountain-lane that forms the Caledonian Canal, linking, by three inland lakes, the Moray Firth at the one end with Loch Linnhe at the other, you

notice the green strips of Glen Urquhart, Glen Moriston, and Glen Garry, Loch Arkaig and Loch Eil, all on the right, and the green fringes of Loch Leven on the left. Then from Loch Linnhe, on the left, you come on the larger green stretches of Argyllshire. Everywhere you can see that the green levels are but margins to the great masses of mountain.

It would be interesting, though not here relevant, to sketch the geological formations of these levels and to suggest how they are formed from the weathering of the mountains whose debris goes down in the great rivers. But we are thinking of those levels only as providing areas for the progressive settlement of human beings. And from this standpoint the rivers are not unimportant. Flowing into the great midland valley from the south-east, you have the Clyde ; flowing eastward, you have the Forth and the Earn ; south-eastward, the Tay—each draining large watersheds and making possible great industries. If you choose to look for other illustrations, you can find them in the two great rivers of Aberdeenshire, the Dee and the Don.

This rough outline is enough to suggest reasons for the present distribution of people. The people necessarily spread along the lines of possible livelihood, and those lines are indicated by the green. One would have expected that the great concentrations of people would ultimately occur in the great midland valley. This would have been so even if the midland valley had drawn to itself only the industries depending on agriculture, on river power, or on the sea. If you go down to Gatehouse on the Solway, within sight of the Isle of Man, you will find there still standing large cotton-spinning mills that rose out of the earth when the spinning-jenny first crossed into Scotland, and, probably, some old inhabitants will tell you that, for a time, it was an equal chance between Gatehouse and Glasgow. But for the discovery of coal, they say, Gatehouse might have won !

But the discovery of coal in the midland valley made all the difference.

Look now at the population map (Map 2). Let your eye run over the colours from pure white through yellow and the various depths of brown to red and deep black. The colours indicate the densities of population in the different localities. Compare the two

maps carefully. The green areas of Map 1 correspond broadly to the peopled areas of Map 2. But in the part of the midland valley lying between the Firth of Forth and the Firth of Clyde, the greatest concentration of people has taken place. That means coal, and all it stands for. The glens of the Highlands, shown in Map 1 as strips of green, are shown in Map 2 as groups of people. The life of centuries continues there almost according to the methods of centuries; but the great concentrations take place around the sources of power. Gatehouse still stands, a beautiful village on the Fleet, looking over the Solway. Perhaps its mills are still turning out bobbins; but its population is only a little over 1000. The population of Glasgow is over 1,000,000. Gatehouse is not without its local problems, even of motherhood and childhood; but it is Glasgow that presents problems of motherhood and childhood to stagger the imagination of the boldest reformer.

How great the concentrations of people in the midland valley are, especially in the section of it between the Firth of Forth and the Firth of Clyde, may be judged from the figures of the Census of 1911. If we keep to the two lines already suggested—namely, one running from Rothesay north-east to Aberdeen, the other running from Girvan to Dunbar—and make a rough reckoning of the population within those lines, we find that the midland valley so defined contains 3,541,495 people. That amounts to slightly over three-quarters of the population of Scotland. The total acreage of that area amounts to 3,582,808 acres—not quite one-fifth of the area of Scotland.

If, now, we contrast this with the population of the Highlands, the contrast is so extreme as to be almost incredible. If we take the counties of Argyll, Sutherland, Caithness, Inverness, Perth, Ross and Cromarty, Orkney and Shetland, we find that the total area is approximately 10,588,529 acres, or about 56 per cent. of Scotland. But the population of the same area is only 465,877, or hardly one-tenth of the total population of Scotland.[1]

It may thus be said that the Highlands and Islands include considerably more than half the area of Scotland, but only about one-tenth of the population. The midland valley contains one-fifth of

[1] For the purposes of the Highlands and Islands (Medical Service) Board, the "Highland area" includes all the counties named except Perth, of which only the Highland District (pop. 14,492) is included.

the area, but about three-quarters of the population. Yet, in the Highlands and Islands, as our special reports will show, the problems of motherhood and childhood are as great in their kind as the problems arising out of the concentrations of the midland valley.

3. *The Nature of the Concentration of the Population.*—If you take a "taxi" from the Municipal Buildings in George Square, Glasgow, you can pass through the few miles of the Glasgow east-end by Parkhead and Shettleston and get to Coatbridge within half an hour. Coatbridge, a town of over 43,000 inhabitants, is the centre of iron works. If you should ever lunch at the hotel, you will find it difficult to keep the plates clean long enough to let you lunch in middle-class comfort; for there are acres of iron works pouring their soot over the town. If you turn south a little to Whifflet, you come upon a group of colliers' rows, houses of one room and two rooms, flooded with men, women, and children. You are already in the heart of the Lanarkshire coalfields. You may go back to the main road and, in a few minutes, pass through Airdrie, a town where the ancient cross-road villages have gone under to squares of colliers' rows. Then you may turn south to Holytown on the Caledonian Railway; not a mile away are the iron works of Mossend. Then you may pass on to the town of Motherwell. Some forty years ago it was a small town of 3000 to 4000 people; to-day it has over 40,000. If you choose to turn further to the south-east, you come on the considerable town of Wishaw, with its 25,000 inhabitants. Then you may pass south-west across the Clyde and, turning north-west, pass through Hamilton, the capital of the county, with its 40,000 inhabitants. You may then pass due west to Blantyre, the birthplace of Livingstone, to East Kilbride, and up among the low hills near Hairmyres, where the county is building its new Sanatorium. Then turning back east and again north-west, you pass through the village of Cambuslang, with some 20,000 inhabitants; then the old town of Rutherglen, with its 24,000 inhabitants; over the Clyde once more, and back by Glasgow Green to the civic heart of Glasgow.

If, on a second or on the same tour, when you are tired of coal-fields and the eternal miles of colliers' rows, you choose to go a little further inland and up the valley of the Clyde, you can get away from all that smoke and pass into regions of fruit-fields where hundreds

of acres charm the eye with tree or flower or fruit. If, again, you go to the north-east of Glasgow, into Stirlingshire, you will find that coal and iron are the dominating interests. If you go down the Clyde on the north side through the mushroom town of Clydebank, the most rapidly growing centre in Scotland, to Dumbarton; or if you go down the south side by Paisley and into Ayrshire through Kilmarnock, the tale is always the same—coal, iron, steam, electricity, and the inconceivably intricate and gigantic industries made possible and actual by them.

When you spend days in the mining counties of the west—Lanark, and Ayr—and lose your bearings among the scores of miners' rows, and then pass down the estuary of the Clyde and scan the unsleeping panorama of manufacture and shipping and international trade, your mind fills with ten thousand thousand impressions that a lifetime could not fully interpret. You are stimulated by the manifestations of power; you are horror-struck by the fringes of squalor; you are roused to fury by the ugliness; you are soothed into peace by the beauty. If you are wise, you will let your mind dwell also on the lines of a larger perspective. Before your little tour ends you will come back to the Municipal Buildings of Glasgow, you will enter the banqueting-hall, and you will feast your eyes on the four great wall pictures, painted there by four Scottish artists, who hoped by these to render in æsthetic form the generative ideas of a great city. In two of these pictures you may find a synthesis of your impressions. In Mr Walton's imaginative impression of Clydesdale you have the river, the fruitful valley, the horse-fair, and, with it all, the suggestion of the early Glasgow where coast and inland met to exchange their goods. In Mr Roche's picture you have the building of a great liner, with the strength, the movement, the energy, the rich orange of the forges and the reds of the funnels, the browns and yellows and blacks of the human makers of all those wonderful engines of international trade. Then you realise that as, in older days and now, the fruit-fields and the corn-fields yielded and yield up their stores to the husbandman, so too that wonderful crop of mining villages and iron towns has sprung up from the earth in answer to the call of all the continents of the world.

In wandering among this population of some 2,000,000, we have come to think not in aggregates of individual men, but in aggregates

of villages and towns and cities. We have come to realise that the whole inland area is no longer a remote world where life flows placidly and silently like the growing of the trees; it is stirred and drawn by the unsleeping activity of the towns. The sheep still wander to the hills in summer and back to the plains in winter; but they are not enough for the workers on the estuary, and we must send abroad for tens of thousands more. The cows go out in the morning and come home at evening; but it is not for the simple satisfaction of the small farmer and his children, or to be the gaze of the village green on their way out and home. It is—early in the morning, in the daytime, and late at night—to provide milk to keep the creameries and milk-shops going, and, through the creameries and milk-shops, to feed the mothers and children of the towns. Twenty-two counties send milk to Glasgow. And so, through the whole range of inland and upland life, nothing, no one, escapes. The town goes to the country, the country goes to the town—and the one calls the other a "holiday resort."

It was steam on land and sea that first worked the change. Transit by train or by tram or by motor is linking up every place with every other, until distance has almost ceased to count. Already the electric-tram lines run continuously from Wishaw through Glasgow, along the north bank of the Clyde, up the Vale of Leven to the foot of Loch Lomond; or again, through Glasgow, along the left bank of the river, to Paisley. The railways continue to fulfil more than their great original services in the same regions; but the play of life demands also something less rigid, something more adaptable to the minor needs of the day's work. And the free motor is rapidly bettering the tramway—or, at least, increasing its power to relate and to mobilise the energies of country and town.

Faster and faster the villages are springing up and growing into towns; the industries are demanding more labour; the quays are growing to receive more ships; the shipyards are deafening the world in their creation of new vessels; the shops, the warehouses, the counting-houses are expanding in number and in size. For the moment, those multitudinous energies are devoted to the war; but they will not cease when the war is over. In the smoke-cloud hanging over lower Clydesdale there is rising a dream of a greater city or a greater federation of cities, bounded by no local horizons, but united and driven by the desire to serve with

their power and skill the opening and undeveloped spaces of the east and west.

In the immediate future, therefore, we shall be faced with the greater and greater need for organising civic life in ways that will meet the needs of the mothers and children. At the end of the eighteenth century, he would have been a great prophet that could have foretold the sudden expansion of population in Clydesdale and near it. Look at the figures for the county of Lanark. In 1801, Lanarkshire, including Glasgow, had a population of 147,629; in 1831 that population exceeded 300,000; in 1851 it exceeded 500,000; in 1891 it exceeded 1,000,000; in 1911 it approached a million and a half. The population is nearly ten times as great as the population of 1801. Of the entire population of Scotland, fully 30 per cent. now belongs to the county of Lanark. Within the one hundred and ten years the increases varied in their magnitude. Thus from 1801 to 1811 the increase was about 30 per cent.; from 1841 to 1851 it was from 21 to 25 per cent; from 1851 to 1861 it fell off to about 18 to 20 per cent.; from 1901 to 1911 it dropped still further to 8 per cent.—much the smallest increase for any decennial period since 1801.

Other counties in the midland valley show similar increases. Thus in 1801 the population of Fife amounted to 93,743; in 1851 it exceeded 150,000; in 1891 it exceeded 200,000; in 1901 it was 218,840; in 1911 it amounted to 267,734—that is, an increase of over 22 per cent. in the ten years from 1901 to 1911.

In 1801 the population of Midlothian, including Edinburgh, was 122,597, and has increased continuously at each successive census. In 1831 it exceeded 200,000; in 1871 it exceeded 300,000; in 1891 it exceeded 400,000; in 1911 it amounted to 507,662. "In 1801 the populations of the three counties, Aberdeen, Perth, and Edinburgh, were very nearly the same; but, of the three, Edinburgh has shown by far the largest growth, it having increased more than four times in amount. Aberdeen also shows a large rise in population, it having increased two and a half times; while Perth, instead of showing an increase of population, shows a slight diminution."[1] It would be easy to give other illustrations of local concentrations. But from these figures alone, it is clear that the massive increases continue to occur in the great midland valley,

[1] Census, 1911: Prelim. Report, p. viii.

and in that portion of it where coal is still abundant and transit well developed. There are many indications that the continuity of increase in the populations of the midland valley will not be broken.

4. *The Form of the Concentrations—Urbanisation, Suburbanisation, and the Garden Village.*—These developments, which are most marked where the coal and iron are most exploited, and will be paralleled wherever those industries continue, prove that, for the large mass of our people in Scotland, the immediate future means a progressive process of urbanisation and suburbanisation. It will be towns and more towns. Whatever form of government may evolve, it will evolve among populations housed in groups of houses planned in streets.

And here emerges the increasing danger to the life and efficiency of the mother and child; but with it emerges an increasing opportunity. In the past century the growth of villages and towns has far outrun the capacity for civic organisation. In the coming century—there are some good signs already—the villages and towns are more likely to grow on lines worthier of modern life. In the new village and town plans that are filling the imaginations of so many engineers, architects, and designers, there will, let us hope, be more space, more variety, more beauty; but, above all, let there be more rooms in the houses, more space for the families, more clean and safe playing-places where the overdriven mothers will wish to place their young children, if only for an hour. How far from adequate the present provision is cannot be suggested in a general statement; but some rough estimate of the needs and the demands may be formed later from the sketches of individual localities.

5. *Town and Country.*—For the reasons given, there is a steady flow of the people from the country to the town. Perhaps it would be better to say that, as the country increases in numbers, the people tend to be organised rather in towns than in rural hamlets or farm cottages. Certainly, for large areas of the midland valley, it is as true to say that the towns are spreading out to include the country, as to say that the country populations are flocking to the towns. The process of urbanisation does not mean merely that the people

are leaving the country for the town; it means that large areas of the country are, through this or that development of resources, themselves producing towns. But whatever the best way of expressing the fact be, the continued concentration of families means a continued increase in the pressure of life. The increased pressure of life demands increased organisation. The towns, as they grow in resources, become better able to organise their common life. It must be the business of good administration to make organisation keep pace with growth—a thing that almost all the towns and cities of Scotland, as of most other countries, have hitherto failed to do. Among the many sections of life needing organisation, the section of motherhood and early childhood is fundamental. That is why, in all the urgent pressure of development, the mother and child demand protection and help. Of the vast expansions I have tried to present, the meaning first and last is this—to provide a fit home for the mother and her child.

In the light of the general view, a few figures of the town populations of Scotland will be easily valued.

"Of the total population of Scotland, 3,139,824 live in the burghs, and 1,619,621 in the extra-burghal portions of the country. The burghal population has increased since 1901 by 188,421, or 6·4 per cent.; the extra-burghal population has increased by 98,921, or 6·5 per cent. It ought, however, to be kept in view that a comparison between the figures representing the burghal and the extra-burghal population can scarcely be said to define the urban as distinct from the rural population; for some burghs in Scotland are so small that their conditions are practically rural, while some communities outside burghs are of such a size that their conditions are practically urban."[1]

In fact, the term burgh is no longer a reliable indicator of the growth of town life in Scotland. New Galloway, the smallest burgh, contains only 376 inhabitants; Cambuslang, one of the largest villages, contains some 20,000 inhabitants. As a means of testing the drift of the people into the towns, or the formation of new towns, the term burgh is entirely useless. It is, indeed, difficult to give any figure groups that represent what has happened or what is really happening. But, in passing, I may direct attention to one fact about burghs. If you look at the Census, 1911 (page xviii), you

[1] Census, 1911: Prelim. Report, p. x.

will find that in 1801 there were only 87 burghs; in 1911 there were 205. But since 1891 the formation of burghs has practically ceased. The explanation certainly is not that the population has ceased to form town aggregates. On the contrary, the town aggregation goes on steadily everywhere. But by the Local Government Act of 1894, powers were given to the counties to form special districts for scavenging and lighting. As powers exist under the Public Health Act to create special districts for water and drainage, the addition of scavenging made it possible for the District Committee of the county to provide for any village practically all the services usually provided by a burgh. Whether so intended or not, these powers have operated against the formation of burghs. Incidentally, the county profits by retaining the larger rateable area. Whether the centres of population will always remain satisfied with the present county form of government no one can tell; but, as keenly as in the Middle Ages, the struggle between the town population and the land population continues, and whether the towns achieve for themselves a separate civic life or remain village elements in the county system, my present point is that the census of burghs does not indicate, with any approach to accuracy, the progressive urbanisation of many areas of Scotland.

6. *Other Types of Civic Development.*—But it is time to look at some other types of town. The coal towns, the iron towns, and the towns depending on them, rise in a generation or less; but where the sources of power are different the urgency of growth is less, and then you have the "old towns" at the big crossings, or at the mouths of rivers, or in control of the market traffic between upland and lowland. Look, for example, at the Tweed as it gathers size from the heart of the southern upland and wanders east and north-east to join the sea at Berwick. Merely as rivers, the Tweed and its tributaries are not so different from the Clyde and its tributaries; the one set of rivers flow towards the north-west, the others to the north-east. On the surface, it is only the difference between two sides of a watershed. But coal, iron, and the large seaport have made the lower Clyde an insurgent mass of mines, railways, ironworks, shipping, and all their derivative and adjuvant industries. But the Tweed and its tributaries, gathering from the pastoral hills, keep singing in chorus to the heart of romantic Scotland. And there is hardly a

name in all the valleys that has not its song or its story, hardly one that would not be remembered wherever Scottish songs are sung or the Scottish romances read. It is true that manufacturers have established themselves in the valleys; but, somehow, there is a difference in the pace, in the atmosphere, in the civic sufficiency. Long before the industrial revolution, Peebles was already a city. Even the manufactures have taken the river's name, and "Tweeds" are known the world over. Innerleithen, Galashiels, Selkirk, Hawick, Jedburgh, Lauder—all these have a rich, old history, differing in temper, in atmosphere, in distinction from the swift necessitated housings of the black country.

But the slow pace, if it has the advantage of securing better integration of civic life, has also some disadvantages in missing the effectiveness of the more modern methods. Yet, even in this respect, the Tweed-basin towns, while preserving the distinction of their history, are maintaining their hold of modern industry. In them, too, the mothers and children are a problem; but it is a problem less in dimensions and more easily handled than the problems produced by the break-neck pace of development in the midland valley. Whatever be the pace of their activities, those towns have created for themselves a strong civic individuality, and this is a factor of incalculable value in the provision of a good life for a child.

7. *The South-Western Rivers.*—Look now for a moment at the valleys of the Esk, the Annan, the Nith, the Ken, the Dee, the Cree, as they drain the southern basins of the southern uplands. Here the predominant industry is agriculture, with here and there a small manufacturing town, such as Langholm. There is much rearing of sheep and stock, and if you wish to understand the milk industry, you should study the series of creameries to be found in Dumfries and Galloway—at Lockerbie, at Valleyfield in the Stewartry, at Sorbie, Dunragit, Sandhead, and Stranraer in Wigtownshire. At some of these, when the season is "in full swing," you will find 10,000 gallons of milk per day collected from the farms, and, by the afternoon, converted into market milk, market cream, or butter, or cheese. If you are a breeder of cattle or a dealer in sheep, you will know to the hour when the sales begin at Stranraer, or Castle Douglas, or Dumfries, or Lockerbie, or Carlisle. As in the valleys of the Tweed basin, so in Dumfries and Galloway nearly all the towns,

big or little, have a long history, and all of them are affected by a distinctive tradition. Here, as elsewhere, the railways have made a difference in linking town with town, and the mobilisation of industry is going rapidly forward in certain areas; but in Galloway—that is, the two counties west of Dumfries—the very distance from great cities has had a subtle effect in cultivating a distinctive social individuality. In population those two counties have been going steadily backward, rather than forward; but in the whole of Galloway the civic interest, both in town and county, has kept at a high level. In the three counties of Dumfries, Kirkcudbright, and Wigtown, as well as in their towns, there are many local health problems; the available resources are far below the level of the larger industrial centres; but the interest in life and living is everywhere intense, and there is good ground for the hope that in those areas the coming generation will fare well.

8. *The Western Lowlands.*—When we pass north from Wigtownshire over the last spur of the southern uplands, we come once more to the county of Ayr on the southern edge of the midland valley. This county, so far as it is a coal and iron county, we have already noticed; but it is equally a county of advanced agriculture. The late Professor Minto once told me how, on his way to visit a friend in Ayrshire, he began saying to himself repeatedly—"What a number of Ayrshire cows!" The surprise is a tribute to the agricultural enterprise of this county; for the Ayrshire cow is as real in the dairy world as coal is in the mining world. Nor do the industries of Ayrshire cease there. They include many kinds of manufacture. The county benefits by the long sea border; the sea traffic is various and constant. The coast towns are largely holiday resorts, and fulfil the function of suburbs to the city of Glasgow and the West of Scotland. As might be expected from the large number of small towns and the rich developments of the ancient and modern industries, the county of Ayr presents many health problems—not least, problems affecting women and children.

As we pass north and east through the county of Renfrew, we come once more definitely within the sphere of influence of the Clyde; we have many types of town and country civilisation, many varieties of problem. How densely peopled large areas of those counties are you readily gather from the population

map. They are among the most important industrial areas of the south-west end of the midland valley. If there could be any doubt about this, it would be removed by the mere mention of some of the towns: Ayr, Kilmarnock, Irvine, Kilwinning, Ardrossan, Saltcoats, Greenock, Port-Glasgow, Johnstone, Paisley, and the old town of Renfrew itself. In those county areas and in those towns we expect to find vigorous efforts towards the organisation of industrial life; an expectation confirmed by the measures taken or yet to be taken.

9. *The Eastern Lowlands.*—Let us now pass from the south-east end of the midland valley to the north-east end, the counties of Fife, Forfar, and Kincardine. Like the county of Ayr, the county of Fife shows an enormous variety in its industries and activities. It may well claim the character of a "kingdom." Of its twenty-eight burghs, many have a very ancient history. Convenient harbours, numerous mines, multiple railways, through transit from north to south and from east to west, the streams of people that converge southward to the Forth Bridge and diverge northward from it: these and many other factors tend to create in the county of Fife at once a large group of health problems and resources for their solution. If the city of Dunfermline bulks largely in the record here, it is because the Carnegie Dunfermline Trust have initiated so many movements bearing on the health of women and children. The town plan of the larger Dunfermline is one of the most important submitted to a Government Department. It is both a symbol of the increasing pressure of life in this large county and a criticism of the inadequate civic organisations of the past.

If you look across from the shores of Fife to the southern shore of the Firth of Forth and catch in a single landscape the signs of the enormous developments from Haddington westward beyond the Forth Bridge, you will partially realise how the great midland valley is already almost a single city, and how, in the coming generation, the estuaries of the Clyde and of the Forth will flow together in a single but infinitely varied industrial system. It would be out of proportion to discuss further the possibilities of the east and west; it is enough to say that the day is not far off when, in greater and greater degree, the Forth will be an American and the Clyde a European port. But if these are the developments

of a near future, the need for pre-organising the conditions of living for mothers and children is only the more striking.

If we pass still further north into Forfar, we must at once particularise Dundee, whose problems of motherhood and childhood demand and obtain a separate section. Forfar, largely agricultural, partly manufacturing, presents many difficulties for the proper organisation of maternity and child-welfare schemes; its special towns—Forfar, Brechin, Montrose, Arbroath—have each their type of difficulty, and the distribution of populations in the rural areas produces the same kind of physical problem as the Highlands. Fortunately, unlike the Highlands, the financial resources are greater.

10. *The North-Eastern Counties.*—In the counties of Kincardine, Aberdeen, Banff, and Elgin, the chief concentrations of population are found on the coast. A leading feature is the series of villages and towns dotted round the great headland from Montrose to Burghead. Both the villages and towns are involved in the fishing industry; but the fishing-village industry, apart from the relatively small local line fishing, is largely organised through the chief centres at Stonehaven, Aberdeen, Peterhead, Fraserburgh, Buckie, and one or two other smaller places. The expansion of Aberdeen at the call of the fishing industry is one of the most striking developments of the last half-century. The transit from the small fishing villages of Footdee and Torry to the large area now devoted to the organisation of the fishing trade and to the manufacture of its by-products, illustrates, on a large scale, what happens when modern engineering takes control of a primitive industry. When an industry is thus reorganised and developed, it is certain to have many by-effects. One of them is the seasonal concentrations of population in centres like Peterhead, Fraserburgh, Wick, Kirkwall, Stronsay, Lerwick, and some other places in the Highlands and Islands. The seasonal concentrations lead to gross temporary overcrowding. The industry draws from the whole fishing world of Scotland thousands of workers, male and female. Sometimes whole families repair to the curing centres. The result is an increase of stress on the mothers and children.

Of the other industries in the great north-eastern headland, agriculture is the chief: large farms, small holdings, stock-rearing,

general culture; paper works on a large scale are found on the two chief rivers of Aberdeenshire; distilleries are a feature of Banffshire and Elginshire.

In all these counties, such difficulties as are met in providing for motherhood and childhood are the difficulties incidental to the average country districts. The railway services are relatively better than in many other areas of Scotland; but the straths and glens of Aberdeenshire are practically part of the Highlands, and are full of the same administrative obstacles.

11. *The Highlands and Islands.*—Of the Highlands and Islands it is not easy to convey any general impression without loss of perspective; so individualised are the localities, so varied in industry, in race, in climate, in tradition, in economic condition. It would be difficult to make a single statement that would be equally true of the island of Tiree, the peninsula of Applecross, the mainland of Orkney or of Shetland. It would be difficult even to characterise the profound difference between the north and south of the single island that includes Lewis and Harris. Over all the Highland area and the Islands we are confronted with difficulties that have long been the despair of the legislature and the administrative authorities. Yet, as I have already pointed out, the total population is less than one-tenth of Scotland; the difficulties flow from the extraordinary varieties in its distribution over an area greater than the half of Scotland. If the city of Edinburgh were increased by a population equal to the city of Dundee, it would then have some 20,000 more than the total population of the Highlands; yet its civic organisation would grow as easily and as naturally into the management of this excess as it has grown within the last century into the management of an excess much greater. But in the Highlands and Islands each island, or each glen, or each minor district becomes a problem by itself: too small in financial resources to constitute a useful administrative unit, yet too urgent in its needs to be left alone. These difficulties I shall illustrate in detail in the special sections dealing with the Highlands and Islands. Here all that need be said is that, from the medical standpoint, the conditions have been found so difficult and so exacting as to demand the establishment of a special Highlands and Islands (Medical Service) Board. The work of this Board I indicate with considerable detail in the sequel; partly

because the difficulties are so specific, partly because the methods of solving them contain hints of an organisation capable of more extended application.

12. *The Great Cities.*—Of the leading cities only a word is wanted here; they will be characterised in detail in a sequence by themselves. They are the focal points of the national administrative and political energies. It is on them primarily that the nation must rely for its great medical schools, its hospitals, its medical institutions generally. Each of them is a point of repair for all the educational and other social interests. To them no single area of Scotland can remain indifferent. They, each in their province, fulfil the functions of a capital city—conferential, radio-active, and directive.

13. *General Aspects of the Problems of Motherhood and Childhood.*—This rapid impression of Scotland as a whole shows how much the mothers and children—the most delicate and fluid part of the population—may suffer from the stresses of industry, or poverty, or isolation, and what difficulties confront the administrative world in its efforts to provide for their welfare.

First, in the rapidly growing industries the want of systematic care for any but the individual workers, the want of town planning, the overbuilding of areas, the overcrowding of houses, the urgency of the labour demand, the stresses of the labour required, the ill-organised food supplies, the sporadic provision for sickness, or injury, or temporary unfitness—these and the multitude of derivative effects tend, in the aggregate, to destroy the life of the child and to make the life of the mother superlatively difficult. Whether we think of the problems of prematernity, or maternity, or infancy, or early childhood, the result is always the same: the mother and child suffer first and most. It is only now that the community is consciously gathering up in its mind the numberless factors necessary to a system of welfare. The illustrations given hereafter are numerous and conclusive.

Second, in the more slowly evolving industries, which have grown here a little and there a little, the difficulties in the provision for mothers and children have not assumed the same intensity, but they are far from non-existent. As a rule, where the small industries have grown into large industries, as in towns like Kirkcaldy or Alloa,

the older traditions of life have maintained themselves alongside the newer conceptions. Very few of the older towns depend entirely on a single industry. Consequently, the civic life is more rich and varied; the interest in social problems is better directed; the organisation of voluntary and civic energy develops more smoothly, if more slowly. But as time goes on the demands for service continue to increase; the resources of the small towns are stretched to their extreme limit; the need for federation with other towns or with county areas becomes more urgent. This was shown in the early days of the Local Government Act of 1889. All the small burghs, some of them with a population of 400, continued to be Local Authorities for Public Health. But experience had already shown that a public health system working with so small a unit could never become effective. In the last twenty-seven years the process of town and county federation of administrative units has gone forward with little interruption. In proof of this, take the National Health Insurance Act of 1911. Under that Act all the burghs under 20,000 were made part of the county for insurance purposes. Among the reforms now upon us there is little doubt that the federation of town and county will be materially accelerated. The federation of areas means also a confederation of industries. The older types of community will benefit by the more rapid pace of the new; and the new will benefit by the riper experience of the old. All over Scotland a striking phenomenon is the antagonism of feeling between the burghal and non-burghal populations. Fundamentally, the antagonism is an antagonism of occupations. The burghal population represents the mercantile, manufacturing, and commercial world; the non-burghal population represents the industries and interests of land. But, gradually, in one social movement after another, the antagonism between these two fundamental standpoints is passing into genuine and conscious co-operation. This process will continue. Of that, our geographical sketch leaves no doubt. The more it extends, the more easily will the common resources be mobilised to provide better conditions of life for the mothers and children.

Third, in the areas where agriculture takes the form of crofts, small holdings, or very small farms, or is simply an occupation subsidiary to the main trade, the difficulties in the provision for women and children are of another order. For, as our sketch shows, the

system of crofts or small holdings possible in large areas of the Highlands and Islands necessarily involves the splitting up of the population into little groups which, individually, are not equal to the social problems incident to their industry. Where the communities of crofters or crofter-fishermen are overcrowded on the land, the difficulties in the evolution of an adequate service for mothers and children are complicated by yet another factor, namely, the exceptional disproportion between local production of commodities and local demand. Thus in communities like Lewis we have the problem of the crofter and crofter-fishermen in its most aggravated form. In large measure the croft has become merely a home with a very large garden, rather than a small farm capable of supporting a family. This explains the seasonal exodus of men and women from the island in their thousands to provide labour at the fishing-stations of Kirkwall, Stronsay, Lerwick, Bressay, Baltasound, Wick, Fraserburgh, Peterhead, and some English towns. It also explains the intimacy of touch between the island and western continents. But these difficulties are not without their compensations. The island of Lewis has sent a phenomenal number of men to the services. It lives at all because it keeps touch with a world immensely greater than itself. But it lives on a high level of intellectual and emotional interests. Out of a primitive agriculture primitively conducted, it has sustained its cosmopolitan dream. Nothing more touches the student of civilisation than to hear the old crofter introducing his son now home from Mesopotamia, or to hear him talk of his grandson in Montana, or to listen to tales of what the Lewis men have done all over the world.

What is true of the Hebrides is true in other terms of the Orkneys and the Shetlands—and, indeed, of all island communities. But this steadiness of tradition means high potency of character. The poverty may be relatively great; but it is never the kind of poverty generated on the margins of the town civilisations. If the islands do not make money, they always grow men—that is their claim to national recognition. They also preserve, with undying intensity, the sentiment of home. "I have known crofts," said an old crofter, "that would not support a herdboy; but the crofter, he must cling to the croft so that he may have a sort of a home when the bad day comes." That is the secret of the land hunger. Last year on the Stornoway shore, in a talk about the large number of

volunteers from Lewis, Mr George Mackay, General Superintendent of Poor for the Highland District, said to me: "Lewis had no wealth to give but its blood, and it has given that." The secret of that impulse is too old and too obscure for any analysis of mine.

Fourth, it would not be right to end without a word on the outlying rock islands of St Kilda in the west, and the Out Skerries, Foula, and the Fair Isle in the north. Of these it is not easy to speak in sober language, whether we think only of their beauty or of the pathos of their little civilisations. The four islands differ as much in the essentials of their tradition as the Highlands differ from the Lowlands, or France from Italy. Communities like these lie on the far margin of local government. But, as when one climber fails on the mountains the others do all they can to help him, thinking not of their own safety but only of his, so must the greater country answer the call of the smaller islands and keep them within hail.

14. *The Special Problems.*—These are some of the large issues revealed by our rapid survey of the distribution of the Scottish people. We shall now try to show, with a sufficiency of detail, how this great population fares in its particular industrial groupings—the crofts, the fishing communities, the islands, the farms, the hamlets, the villages, the small towns, the large towns, the great cities; how its mothers and children thrive or suffer according to the conditions of living; what forms their suffering takes; what powers the law confers on the administrations and what duties it requires of them; what the administrations are doing or proposing to do to realise their powers and to discharge their duties; what new demands are seeking the approval of national opinion, and what new measures of research or education or organisation those demands imply if the national energies are to be concentrated on the conservation of mother and child.

CHAPTER II

PROVISION FOR PREMATERNITY: THE EXPECTANT MOTHER

1. *Problems of Prematernity.*—Scotland, in any single year, has at least 110,000 expectant mothers. This we may infer from the birth-rate. In the year 1916, when, for reasons only too well known, the birth-rate had fallen lower than in any year since 1863, the children born alive numbered 109,935. For the study of prematernity, we must add the numbers of children that died at birth and the unknown numbers that, by accident, or disease, or crime, died before birth. It would be safe to place the grand total at more than 120,000; but even the smaller figure points to a problem of great dimensions and difficulty.

If the care of mothers and children is to reach a level worthy of western civilisation, the problems of prematernity will claim increasingly intensive study. They constitute an essential element in any scheme for maternal and infant welfare. The details are necessarily left to specialists; but the creation of administrative machinery for enabling the expectant mother to secure the special advice and treatment appropriate to her condition is now a matter for general discussion. The methods for enabling her to do so must vary. It is one thing in richly provided medical communities like the four great cities; it is another thing in the remote glens of the Highlands, or in the storm-circled Islands of the north and west. But everywhere the problems are pressing. It is well to have a perfectly clear conception of the provision wanted.

To this end, I have asked Dr J. W. Ballantyne, F.R.C.P.E., who has made this field of studies peculiarly his own, to sketch the general requirements of prematernity and the detailed organisation he considers essential and practicable. This Dr Ballantyne has done in a very elaborate way; but I regret that space forbids the full use of his material. My regret, however, is qualified by the fact that Dr Ballantyne, in the volumes named at the end of his contribution, has presented both to the professional and to the general public the views he has been led to form by individual studies of

practically every phase of prematernal life. In the excerpts I propose to make from his report I confine myself to the general problem as he conceives it clinically and to his suggested administrative solutions. He has compiled from recent researches a compact body of statistical results, which go far to justify the large claims he makes for the importance of prematernal care.

Dr Ballantyne presents the case from the standpoint of a clinician; but, before introducing his materials, I propose to show the wider administrative relations of prematernity. This is done in the form of an indirect argument from the appalling number of deaths due to congenital causes. Logically, the material dealt with in this indirect argument should come within the chapter on the causes of the deaths of children; but the relation between the life of the mother and the early death of the child is so important, that I prefer to use this material as part of the argument for the increased care of the expectant mother.

2. *Prematernity in relation to Congenital Causes of Infant Death.*— In the five years from 1911 to 1915, congenital causes accounted for the deaths of 23,481 infants under one. Congenital causes include prematurity, debility, wasting, malformations. This enormous total is greater than the total killed by measles and whooping-cough together in the same five years.

In the single year 1915, 4615 children under one died of congenital causes. If we go back to 1911 we find that congenital causes in that year accounted for 4647. In the year 1914 they accounted for 4913. Roughly, some 4600 children die in Scotland every year from congenital causes. From these causes alone 46,000 children are lost to Scotland every ten years. This fact justifies the opening up of every possible line of investigation into the causes of death. For the capacity of the infant to survive depends on the mother; the capacity of the mother to produce an infant fit to live by itself depends on a multitude of special conditions, partly personal, partly social. It is these personal and social conditions that first demand investigation by methods adapted to their nature.

We come a little closer to the facts when we study the deaths that fall within the first week and groups of months in the first year. For the year 1915 I reproduce the table of returns of infant mortality published by the Local Government Board for Scotland. This table contains the quantities

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RETURNS OF INFANT MORTALITY, 1915

TABLE showing, for the Year ended 31st December 1915, (1) NUMBER OF BIRTHS; (2) NUMBER OF DEATHS from all Causes within certain Age Periods; and (3) CORRESPONDING DEATH-RATES per Thousand Births.

N.B.—The figures on which these statistics are based have been supplied by the Medical Officers of Health. Burghs are classified according to population of present area at Census 1911.

Burghs with a Census Population over 20,000, arranged according to Census Population :—	Number of Births.	DEATHS.											
		Under 1 week.	Death-Rate per 1000 Births.	1 week and under 1 month.	Death-Rate per 1000 Births.	1 month and under 3 months.	Death-Rate per 1000 Births.	3 months and under 6 months.	Death-Rate per 1000 Births.	6 months and under 12 months.	Death-Rate per 1000Births.	Total under 1 year.	Death-Rate per 1000 Births.
Glasgow	27,941	702	25·1	519	18·6	630	22·5	679	24·3	1477	52·9	4,007	143·4
Edinburgh	5,851	155	26·5	102	17·4	132	22·6	141	24·1	244	41·7	774	132·3
Dundee	3,927	128	32·6	86	21·9	123	31·3	154	39·2	330	84·0	821	209·1
Aberdeen	3,835	107	27·9	69	18·0	122	31·8	135	35·2	221	57·6	654	170·5
Paisley	2,089	41	19·6	44	21·1	35	16·8	36	17·2	65	31·1	221	105·8
Leith	1,942	36	18·5	32	16.5	56	28·8	38	19·6	88	45·3	250	128·7
Greenock	2,271	56	24·7	37	16·3	48	21·1	58	25·5	133	58·6	332	146·2
Coatbridge	1,230	44	35·8	20	16·3	27	22·0	25	20·3	41	33·3	157	127·6
Motherwell	1,221	19	15·6	20	16·4	27	22·1	19	15·6	48	39·3	133	108·9
Kirkcaldy	857	10	11·7	15	17·5	21	24·5	18	21·0	40	46·7	104	121·4
Hamilton	1,181	31	26·2	11	9·3	21	17·8	30	25·4	52	44·0	145	122·8
Clydebank	1,332	32	24·0	25	18·8	24	18·0	35	26·3	49	36·8	165	123·9
Perth	624	12	19·2	20	32·1	10	16·0	19	30·4	33	52·9	94	150·6
Kilmarnock	890	27	30·3	11	12·4	22	24·7	13	14·6	33	37·1	106	119·1
Falkirk	797	25	31·4	13	16·3	13	16·3	21	26·3	39	48·9	111	139·3
Ayr	753	24	31·9	13	17·3	16	21·2	25	33·2	21	27·9	99	131·5
Dunfermline	731	20	27·4	11	15·0	16	21·9	9	12·3	20	27·4	76	104·0
Wishaw	791	21	26·5	13	16·4	14	17·7	19	24·0	32	40·5	99	125·2
Airdrie	705	18	25·5	7	9·9	15	21·3	15	21·3	23	32·6	78	110·6
Rutherglen	655	18	27·5	10	15·3	13	19·8	11	16·8	19	29·0	71	108·4
Inverness	459	10	21·8	7	15·3	15	32·7	14	30·5	16	34·9	62	135·1
Dumbarton	651	10	15·4	8	12·3	7	10·8	9	13·8	28	43·0	62	95·2
Stirling	510	14	27·5	3	5·9	11	21·6	12	23·5	14	27·5	54	105·9
Arbroath	403	9	22·3	8	19·9	9	22·3	17	42·2	21	52·1	64	158·8
Total	61,646	1,569	25·5	1,104	17·9	1,427	23·1	1,552	25·2	3,087	50·1	8,739	141·8
Total of Burghs with population of 10,000 but under 20,000	6,137	162	26·4	129	21·0	133	21·7	147	24·0	249	40·6	820	133·6
Total of Burghs with population of 5000 but under 10,000	4,257	129	30·3	76	17·9	88	20·7	80	18·8	132	31·0	505	118·6
Total of Burghs with population under 5000	6,309	149	23·6	105	16·6	132	20·9	127	20·1	170	26·9	683	108·3
Total Burghal	78,349	2,009	25·6	1,414	18·0	1,780	22·7	1,906	24·3	3,638	46·4	10,747	137·2
Total Counties (Landward)	35,554	894	25·1	541	15·2	638	17·9	591	16·6	931	26·2	3,595	101·1
Grand Total (*a*)	113,903	2,903	25·5	1,955	17·2	2,418	21·2	2,497	21·9	4,569	40·1	14,342	125·9

(*a*) No Returns have been obtained from certain burghs and districts having a total population of 50,025. While the rates shown may be taken as accurate, the numbers of births and deaths appearing here are understated to the extent indicated.

for Scotland as a whole, for each of the larger burghs, for groups of the smaller burghs, and for the landward part of Scotland. In the first week 2903 children died, that is over 25 per thousand births. The first-week death-rate per thousand births varies considerably from a minimum of 11·7 in Kirkcaldy to a maximum of 32·6 in Dundee. But the larger burghs as

a whole show a lower first-week death-rate per thousand births than either of the two groups of burghs between 5000 and 20,000. The first-week death-rate in the counties is practically the same as in the larger burghs.

In every variety of community the first week shows the highest death-rates. The other periods named in the table also give material for interesting comparisons between the different communities. By the end of the first year the difference between town life and country life asserts itself through all complications. But, as we have to say so often, the death-rate alone tells us too little.

In a careful study of "Infant Mortality in the First Four Weeks of Life," Dr Chalmers shows, in a sufficiently convincing way, that in Glasgow the deaths from prematurity, congenital defects, atelectasis (non-expansion of the lungs), atrophy, and debility have not shown the same rate of decline as the deaths from respiratory diseases and digestive diseases. For children under three months of age, while deaths from respiratory and digestive diseases taken together have fallen from 18·3 per thousand births to 13·9 per thousand births, the death-rates from the other diseases taken together have remained pretty steadily about 35 per thousand births. In other words, for children under three months of age, the causes of death that depend mainly on the condition of the mother show little decline in forty years; the causes that depend on the child's environment after birth show some decline.

If we further analyse the facts for each of the first four weeks, we find that immaturity heads the list among the causes of death; and the deaths from this cause in the first week are, among males, over five times the deaths of the second week, over six times the deaths of the third week, and over ten times the deaths of the fourth week. In females the figures are relatively much the same.

For detailed discussion of the data Dr Chalmers' paper must be consulted. Here all I wish to say is that these facts carry us directly into social analysis. The death-rates of the first week point to the problem; but the solution lies among the complexities of social conditions into which the child is born. The approach to these conditions is difficult. But there are several openings. Among others there is the problem of stillbirths. How these may be made to reveal more intimately the causes of death is well illustrated by the two tables reprinted by permission from Professor Matthew Hay's Aberdeen studies.

These tables indicate at once the extraordinary complication of the problems and the methods of approaching them. The numbers, it is true, are very small; but the intensive study of them on these lines brings us face to face with primary facts of the individual life. Nothing could show better how difficult it is to be born alive,

ABERDEEN.—STILLBIRTHS.—YEAR 1910.

A.—Child believed to be Alive up to Commencement of Parturition.

(Males, 35; Females, 28; Sex not stated, 3; All, 66.)

		Wrong Pre-sentation (17 cases).	Difficult Labour (14 cases).	Contracted Pelvis (19 cases).			Mal-formation of child (2 cases).		Prolapse of Cord (6 cases).	Placenta Prævia (3 cases).		Other † Causes (5 cases).	Totals.
	Born at (Month)	8½–9	8½–9	8½–9	8	7	6	9	8½–9	8	9	8½–9	
	Total Number of Births	17	14	15	3	1	1	1	6	1	2	5	66
Sex.	Male	7	7	11	1	1	..	1	3	..	..	4	35
	Female	8	6	4	2	..	1	..	3	1	2	1	28
	Not stated	2	1	..	..	..	..	..	..	..	..	..	3
Size of House.	1 or 2 rooms	14	11	10			2		3	1		2	43
	3 rooms	2	2	5			..		2	2		3	16
	4 rooms and upwards	1	1	4			..		1	..		..	7
Birth conducted by	Medical Practitioner	10	11	13			2		5	1		5	47
	Midwife	1	..	1			..		..	..		..	2
	Medical Practitioner and Midwife	2	..	..			..		..	..		..	2
	Maternity Hospital :—												
	(*a*) Out-patient	2	..	..			..		1	..		..	3
	(*b*) In-patient	2	3	5			..		..	2		..	12
Previous Still-Births.*	Number of Mothers with such Births	2	2	8			..		2	..		..	14
	Number of such Births to each Mother	(2–3)	(1–2)	(1–6)			..		(2–5)	..		..	(1–6)
	Total Number of such Births	4	3	23			..		7	..		..	37
Number of First Pregnancies		5	9	7			..		4	..		3	28
Previous Children Born Alive.	Total number living	29	14	19			11		7	2		3	83
	Total number dead	11	6	9			..		..	..		..	26
Mother.	Health good	12	13	10			..		4	..		4	43
	,, fair	4	1	9			..		1	3		1	19
	,, indifferent or bad	1	..	..			2		1	..		..	4
	Means good	10	12	12			1		5	3		5	48
	,, not good	7	2	7			1		1	..		..	18
	Wage-earning	1	2	1			..		2	1		..	7

* Including miscarriages.

† Violent excitement, premature rupture of membranes, cord round neck, etc.

ABERDEEN.—STILLBIRTHS.—YEAR 1910.

B.—Child believed to be Dead before Commencement of Parturition.

(Males, 55; Females, 59; Sex not stated, 2; All, 116.)

		Falls, Blows, Overstraining (35 cases).				Shock, Fright, Worry, Underfeeding (21 cases).				Ill-health.—Syphilis, Epilepsy, Metritis, Anæmia, Nephritis, Bronchitis (35 cases).					Alcoholism (2 cases).	Other or Undefined Causes (23 cases).				Totals.					
	Born at (Month)	8½–9	8	7	6	8½–9	8	7	6	9	8	7	6	P	9	9	8	7	6	8½–9	8	7	6	P	All.
	Total Number of Births	21	4	5	5	9	5	6	1	17	5	6	4	3	2	14	3	3	3	63	17	20	13	3	116
Sex.	Male	11	3	2	3	5	4	1	..	10	1	..	2	..	2	7	1	..	3	35	9	3	8	..	55
	Female	9	1	3	2	4	1	4	1	7	4	6	2	3	..	7	2	3	..	27	8	16	5	3	59
	Not stated	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	2
Size of House.	1 or 2 rooms	16	4	4	4	6	4	5	1	11	3	4	3	1	1	8	2	2	3	42	13	15	11	1	82
	3 rooms	1	..	1	..	2	1	1	..	5	2	1	1	2	1	3	..	..	..	12	3	3	1	2	21
	4 rooms and upwards	4	..	..	1	1	..	..	..	1	..	1	..	..	..	3	1	1	..	9	1	2	1	..	13
Birth conducted by	Medical Practitioner	12	2	4	4	4	3	2	..	14	3	3	2	2	2	10	..	3	3	42	8	12	9	2	73
	Midwife	6	1	..	1	4	..	..	..	2	1	2	2	1	..	2	2	..	..	14	4	2	3	1	24
	Med. Pract. and Midwife	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	3
	Maternity Hospital—																								
	(*a*) Out-patient	2	..	1	..	..	1	4	1	..	1	1	..	..	..	..	..	..	..	2	2	6	1	..	11
	(*b*) In-patient	1	..	..	..	..	..	..	..	1	..	..	..	..	..	2	1	..	..	4	1	..	..	..	5
Child believed to be dead before Birth for	1 week and under	7	3	1	3	3	1	2	..	10	4	1	0	..	..	6	..	..	1	26	8	4	4	..	42
	2 weeks and above 1	6	..	1	..	3	1	3	..	3	1	..	1	..	..	2	..	..	..	14	2	4	1	..	21
	4 weeks and above 2	8	1	2	1	..	2	..	..	1	..	3	1	..	..	4	1	2	..	13	4	7	2	..	26
	Above 4 weeks	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	2	..	1	..	..	3
	Not stated	..	..	1	1	2	1	..	1	3	..	2	2	3	1	2	2	1	2	8	3	4	6	3	24
Previous Still-Births.*	Number of Mothers with such Births	4	1	2	1	4	4	1	..	3	3	2	2	..	2	3	..	..	1	16	8	5	4	..	33
	Number of such Births to each Mother	(1–2)	(1)	(1)	(6)	(1–7)	(2–4)	(3)	..	(1–5)	(1–4)	(1–6)	(1)	..	(1)	(1)	..	..	(1)	(1–7)	1(–4)	(1–6)	(1–6)	..	(1–7)
	Total Number of such Births	5	1	2	6	18	11	3	..	9	7	7	2	..	2	3	..	..	1	37	19	12	9	..	77
Number of First Pregnancies		5	2	2	2	1	..	3	..	5	1	2	..	2	..	2	1	1	1	13	4	8	3	2	30
Previous Children born alive.	Total number living	40	3	2	7	40	10	11	1	38	9	14	11	1	15	38	1	4	6	171	23	31	25	1	251
	Total number dead	6	4	1	4	11	14	1	..	13	10	4	2	..	9	12	1	..	7	51	29	6	13	..	99
Mother.	Health good	18	4	4	4	4	2	3	..	..	..	..	..	..	1	9	1	3	2	32	7	10	6	..	55
	„ fair	3	..	1	1	3	3	2	1	15	5	4	2	2	1	4	2	..	1	26	10	7	5	2	50
	„ indifferent or bad	..	..	..	..	2	..	1	..	2	..	1	2	1	..	1	..	..	..	5	..	2	2	1	10
	Means good	13	3	4	4	3	3	1	1	11	4	4	2	2	..	9	2	1	2	36	12	10	9	2	69
	„ not good	8	1	1	1	6	2	5	..	6	1	2	2	1	2	5	1	2	1	27	5	10	4	1	47
	Wage-earning	6	1	1	..	..	..	2	..	2	..	..	..	1	..	2	2	1	..	10	3	4	..	1	18

* Including miscarriages.

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The child, if he is still alive up to the commencement of parturition, has to face the illimitably varied chances of death classified under the terms wrong presentation, difficult labour, contracted pelvis, malformation of child, prolapse of cord, placenta prævia, and other causes. To any of these chances may be added others: the unsuitability of the mother's house of one or two rooms; the knowledge or ignorance, the experience or inexperience, the skill or unskilfulness of the medical practitioner or midwife acting singly or together; the stresses of the mother's mind in transit to the maternity hospital or in touch with other anxious cases there; the mother's history of stillbirths; her maternal experience as tested by the child's own place in the family sequence; the family luck of life as shown by the brothers or sisters living or dead; good, or fair, or indifferent, or bad health of the mother; the good or not good means of the mother; her employment as a wage-earner and the nature of her employment; the burden of her day's work at home. These are but a few of the named avenues of adventure: the unnamed are innumerable. If the child is dead before the commencement of parturition, he may have died from any one of many maternal accidents: falls, or blows, or overstraining; shock, fright, worry, underfeeding; ill-health due to syphilis, epilepsy, metritis, anæmia, nephritis, bronchitis; alcoholism, and a number of undefined causes.

If every case of stillbirth were closely investigated with the administrative intensity implied in these carefully devised tables, the chances of death at birth or before it would soon be lessened. But the rough work of present-day medicine makes intensive investigation of this kind impossible except to the specialist. It is the task of the new powers now conferred upon the public health authorities to create the specialisms necessary to push practical investigation to its furthest limits along such lines as these.

In the Glasgow study Dr Chalmers gives other illustrations that show the need for continued research. He points out, as many others have done, how imperfect our information is about stillbirths. Yet, from an analysis of 1354 infant deaths out of a total of 11,533 births, he finds that (*a*) in poor districts the rate of stillbirths is 5·7 per cent.; (*b*) in artisan districts it is 3·8 per cent.; (*c*) in residential districts it is 2·4 per cent. He adds, "The information suggests a grading of rates in correspondence with the general death-rate." In other connections he found that the death-rate varies with the economic levels as reflected in the one-room, two-room, three-room, etc., houses. The stillbirths, like the total infant mortality, seem to do the same. And the leading cause in the infant mortality is always "immaturity," which, as he uses the term, includes premature birth, congenital defects, atelectasis, atrophy, and debility. In the poor districts, among the males, immaturity contributes 48 deaths per thousand births; in the artisan districts 30 deaths per thousand births; in the residential districts 24 deaths per thousand births.

These studies are only, as they profess to be, mere beginnings in an immense field; but they show how great a task lies before the coming generation of experts in maternal and infant welfare. The argument led from the clinical side by Dr Ballantyne thus finds its justification in the statistical quantities.

Further elaboration is unnecessary. The facts given are enough to ground the many suggestions hereafter made of better provision for prematernity, maternity, and early infancy.

THE CARE OF THE EXPECTANT MOTHER AND HER (UNBORN) INFANT: A PROBLEM IN PRESENT-DAY PUBLIC HEALTH. By J. W. BALLANTYNE, Esq., M.D., F.R.C.P.E., F.R.S.E.

(1) *Introduction.*—There is at the present time no problem in public health of greater importance than that of ensuring for every expectant mother proper and sufficient supervision by the medical and nursing professions. The objects aimed at are:—

(1) Freedom from discomfort and illness during the period of pregnancy;
(2) A safe and painless delivery, followed by a rapid and complete convalescence—these are benefits for the mother; and
(3) Healthy growth and normal development of the child before, during, and after his birth—this is the gift which it is desired the infant should receive.

The second of these objects has already been, to a large extent, secured; and, to this extent, the problem has been solved. It is not indeed claimed that modern midwifery has entirely succeeded in making childbirth safe, painless, and quickly recovered from; but it has attained so much success that it may be left with comparative security in the hands of the obstetricians and the certified midwives, the latter looking after the so-called normal cases, and the former attending to delayed or dangerous births. It is, however, part of the great problem of public health that to *every woman* in the hour "of nature's peril" such skilled assistance should be readily and immediately available; and this end, through the operation of the Midwives Acts for England and Scotland and the National Insurance Act, is in process of accomplishment.

It is quite otherwise with the first and third objects. The care of the mother in the period of her expectance, both for her own sake and for that of her unborn infant, had, until recent years, been curiously overlooked; and even now it cannot be regarded as generally or efficiently performed. Attention, however, is being focussed upon it from several directions. *In the first place*, the school medical officers have been led to look at it because of their inability to secure complete health for the children under their care by reason of physical defects brought with them out of pre-school age. These officers have traced the defects back to birth; have found that not all of them originated even then; and have, in consequence, had to institute

inquiries into the antenatal lives of the scholars—thus reaching the mothers. *In the second place*, obstetricians have been slowly learning that many difficulties and dangers and not a few deaths at and immediately after confinement are due to conditions existing in the nine months of pregnancy, conditions which, in many instances, are curable during these nine months; whilst their evil effects (if their antenatal treatment be neglected) are disastrous at and after birth. In one case it is the mother herself who suffers from the lack of medical care in her pregnancy; in another it is clearly her child; and in too many both mother and child are put in jeopardy. Obstetricians, therefore, have begun to concentrate their attention more persistently upon the expectant mothers of the community, and thus hope to lessen both maternal and infantile disease and death. *In the third place*, the phenomenon of the falling birth-rate has served to draw attention to the expectant mothers of the nation. Even those who have welcomed the fall have been forced to the conclusion that, if the number of babies coming forward is to be less, it is all the more important that the ones which arrive shall be of the best quality. The mothers must be kept healthy, and so care in pregnancy is emphasised for this cause. To those who are alarmed by the fall in the number of births—and their number has greatly increased, whilst their anxiety has deepened since the loss of the nation's manhood in war has become a sinister sign of the times—to them the welfare of the expectant mother and her expected baby seems a matter of vital moment; for, although they may not be sanguine about checking the tendency to desire and to contrive small families for selfish reasons, they are hopeful that, by saving the babies actually on the way, the deficiency may be, if not made up, at least rendered less serious. To them the prevention of miscarriages and of premature labours, and in general the salvage of antenatal life, is of high importance; and so they too turn towards preventive work among the expectant mothers and the young infants. *In the fourth place*, medical science, which is ever on the outlook for new subjects of investigation, whether these seem to promise immediately practical and beneficial results or no, has, for some years, been attracted towards researches on antenatal life in its physiology, pathology, and hygiene, and has been fascinated by the intricacy of the problem of the biological relations existing between the pregnant woman and the unborn child in her womb. Thus a new and important section of obstetrics, if it be not indeed worthy of the name of a new department of medicine itself, has been growing up under the designation of antenatal pathology and hygiene. For all these reasons, and for others which are less important, attention has been so focussed upon the case of the mother and the unborn child that it is no exaggeration to say it is seen to be a matter of national urgency even during the continuance of a great war.

(2) *Scope of the Report.*—In this Report, the writer has restricted himself to the presentation of the needs of the antenatal work for the child and of the prematernity work for the mother. . . . The care given to the unborn infant is and must be through his mother; she is, as it were, his immediate environment, and he can only be reached through her. How to keep each mother healthy while she is carrying her infant in the womb, and how to

keep him healthy while he is being so carried is the double problem to be solved, for, let it be stated at once, it does not necessarily follow that by accomplishing the first object we shall achieve the second, although we shall come very much nearer doing so than if the first be left undone. The reason for this qualification is found in the fact that morbid states of the expectant mother are not invariably transmitted to her unborn child either in the identical form in which they attack her or in a modified variety of it. The converse would seem to be true also; complete health of the mother is not always reflected in the birth of a perfectly normal or healthy infant. There is a certain degree of independence exhibited between the maternal and the fœtal organisms notwithstanding their close relationship. This is to be explained (*a*) by paternal and ancestral influences, the former impressing itself upon the new organism at conception and the latter being transmitted "hereditarily"; and (*b*) by the action of the placenta (the connecting link between mother and unborn child), which sometimes allows evil or good influences to pass through it and at other times seems to check them. Nevertheless, there is evidence to show that maternal welfare does, in the great majority of cases, translate itself into infant welfare, and that illness in the mother generally affects her offspring injuriously. The evidence is enough to justify every effort to achieve maternal well-being in pregnancy for the child's sake as well as for the mother's immediate benefit.

(3) *General Requirements for Mother and Infant Welfare.*—The above statements lead naturally to the presentation of the general requirements of a scheme of expectant mother welfare, the first of them being the acquisition of more exact and complete knowledge of the relationship between the maternal and infantile lives in pregnancy; the second of them being improvement in the records of cases and an extension of the teaching at the medical schools.

(a) *Scientific and Medical Investigation.*—For the reasons stated in the preceding paragraph, it is of great importance that the medical profession should be in possession of precise and complete information regarding the pregnant condition both in relation to the mother and to the unborn infant. Since the healthy mother does not of necessity ensure the healthy child, since *mater sana* does not invariably imply *fœtus sanus*, it is obvious that a knowledge of the physiological and pathological laws which govern the relationship between the unborn infant and his mother should be discovered and set forth. It is no exaggeration to say that they have not yet been fully or nearly fully ascertained. It is true that the anatomy of the pregnant woman and the anatomy of her infant in, at any rate, the later months of his antenatal life have been investigated with a fair degree of fullness; but beyond this almost all requires to be done. The physiology of pregnancy is incompletely known, indeed the biological nature of pregnancy is only now being seriously inquired into; the physiology of the fœtus and the development of the embryo are (the former in particular) almost unworked fields of research; and the transplacental interchanges of food, gases, excreta, ferments, enzymes, hormones, and the like between mother and child and child and mother have barely begun to be investigated. Many diseases of the pregnant woman and many morbid states of her fœtus (both malformations and maladies) have been carefully described and classified, but the causes of them remain obscure and, in some instances, quite dark; and, further, the relation between maternal and fœtal states and between them and placental diseases has yet to be worked out, and, indeed, has scarcely yet been attempted by modern methods. What may be called *antenatal pharmacology* or the effect on the fœtus of medicines administered to the mother is another almost unsurveyed territory in scientific medicine.

THE EXPECTANT MOTHER

Obviously, an immense amount of research is needed, especially in physiology, pathology, bacteriology, and pharmacology, before one can approach with confidence so apparently simple a problem as caring for an unborn infant by keeping his mother well. . . .

There is, however, no need to postpone the care of the expectant mother until full scientific proof is forthcoming of the value of such care for the unborn infant's sake. For the mother's own sake the supervision and treatment are necessary, and abundant evidence is available to show that the diseases of pregnancy can be cured, ameliorated, or prevented by medical and nursing means. From this point of view alone ample justification of prematernity work is to hand. Further, in a general sense, what is good for the mother is helpful for her unborn child. The scientific explanation of the exceptions may not yet be obtainable; but enough is known from the purely clinical side of the subject, and from the results for the child already gained from the giving of the supervision and care to the mother in her expectancy, to do more than warrant their continuance. Statistics showing the effect of antenatal care given to unborn infants will be furnished below. At the same time it is desirable that a full body of scientific data should, as soon as possible, be within the reach of the medical profession to confirm, correct, or extend the supervision and care of expectant mothers with the special aim clearly in view of benefiting their unborn infants by so doing.

(b) *New Legislation and Education.*—The Acts of Parliament already in existence and the powers which they give or which can be got from them are sufficient to enable the Public Health Authorities to plan and to carry out mother welfare work on a considerable scale, although finance, as in so many other advances in hygiene, may hamper or delay progress to some extent. Still there are certain directions and some departments in which new legislation would be welcome, and it could be embodied in amending Acts to the National Insurance Act, the Midwives Act, the Midwives (Scotland) Act, the Notification of Births (Extension) Act, and the Public Health Acts. It would, for instance, be of great value to the whole system of antenatal and prematernity care if the Insurance Act gave means of aiding mothers before the birth of their infants, either in the form of money grants for the providing of necessary preparations for confinement, or in that of medical and nursing attendance if called for,[1] or in that of hospital accommodation for the illnesses of the pregnant state. Under the rules in connection with the Midwives Acts the training of pupil nurses in the management of normal and in the detection of abnormal pregnancies by oral teaching and by examination is rightly insisted on, but it would be well if attendance upon women in pregnancy was also made obligatory. The legislative machinery for the notification of births after the twenty-eighth week of pregnancy is now complete; but no arrangements for ensuring a full return of miscarriages and abortions have yet been devised, not to say introduced. It is stated, and with truth, that the difficulties of obtaining official information regarding miscarriages, and especially early ones, are great; but they are not insuperable, and they are certainly not more formidable than those in the way of securing a full return of the mild cases of some epidemic disorders.

(c) *Notification of Pregnancy Unnecessary.*—With regard to the advisability of asking at once for an Act for the Notification of Pregnancies, the writer has elsewhere stated his views. Certain advantages would undoubtedly follow the application of carefully devised legislation to ensure an accurate estimate of forthcoming births, and the securing of mother welfare would be greatly facilitated; but the objections are not inconsiderable, and the writer is of opinion that the end desired can be better attained (although more slowly) by the education of expectant mothers in the importance of the early engagement of doctor or midwife. A sort of voluntary notification of pregnancy will thus be secured which will gradually become a complete intimation to the medical and nursing professions of the women likely to require their services. After all, the more important matter is not an accurate estimate of the number of babies on the way, but means for bringing these babies and their mothers under supervision and care. . . .

(d) *Employment of Expectant Mothers.*—There is a more direct connection between mother welfare and the measures for regulating the work of expectant mothers, both in its amount and in its nature. Some occupations are not good for the pregnant woman and her unborn infant; others are positively dangerous; and yet others, on account of the strain they impose, should not be continued until the close of pregnancy. It would be well if all women could rest from very active work during the last month or perhaps the last two months of gestation. There is abundant evidence (mostly in the hands of the French

[1] Care would, of course, have to be taken to avoid the overlapping of medical agencies and the divided responsibility of several doctors and nurses, risks which are fully and clearly stated by Alfred Cox in the supplement to the *Brit. Med. Jour.* for Jan. 27, 1917, p. 14.

obstetricians) that maternal rest at this time increases the weight and the robustness of the infants, possibly in many, if not in most, instances by permitting the gestation to go on to its full term. Similarly, after confinement, work ought not to be too soon returned to; and some reward might well be held out to the women who willingly suckle their infants for at least nine months (presupposing their capacity to do so). Postnatal homes are referred to in another part of this Report; but it is a question whether they ought not to be provided on a large scale by the State, instead of, as at present, in a Lilliputian measure by far-sighted but slenderly equipped charity.

(e) *More Exact Records of Stillbirths.*—Another matter which requires close looking into is the more efficient, more detailed, and more scientifically correct filling in of the cause of the fatal issue in stillbirths, and in infantile deaths. The insertion of "prematurity of birth" as a cause is correct enough in one sense, but most misleading in another; behind it there is often hidden parental syphilis, and alcoholism too may lurk there. Congenital debility also is a common cloak for ignorance and most unhelpful to the medical officer of health, who is keen to reduce the stillbirths and the infantile mortality in the town under his care. Legislation here, however, can hardly do much good until education and investigation have illuminated the dark department of the etiology of antenatal and immediately postnatal disease and death. There is an enemy salient here in the line of hygienic advance; it must be smoothed out before there can be any general progress.

On the whole, however, it does not seem to the writer that much legislation is needed to make possible the bringing of all expectant mothers under proper hygienic conditions for their own sakes and for that of their unborn children. An amendment here and there and the further utilisation of existing legislative enactments are all that are required.

(f) *Mother and Child Welfare in the Medical Schools.*—Under this heading it may be well to add a few words regarding the teaching of the subject of infant welfare in universities and medical schools. Most teachers and text-books give sufficient time and space to the management of the diseases of pregnancy as looked at from the maternal standpoint, but it is doubtful if anything like enough is said from the side of the unborn infant; further, there is a real risk that the newborn infant's management in health and disease be neglected by both obstetricians and pediatrists, each trusting to the other to give instruction thereon. It should be definitely assigned to one teacher or the other, and the whole subject of mother welfare, with a view to infant well-being, should be named on the programme of study of obstetrics or of pediatrics.

The advisability also of establishing lectureships on infant and mother welfare in universities and medical colleges is beyond question, for, as the subjects develop, there will be an increasing call for medical officers (men or women) specially qualified in these matters. Such lectureships would most suitably form part of the Midwifery or of the Public Health Departments. The writer, some seventeen years ago, gave two courses of lectures on Antenatal Pathology (including Hygiene) and Teratology in the University of Edinburgh, and they were largely attended by both postgraduates and undergraduates. Journals devoted to the consideration of the whole or of parts of the subject would be of great assistance. For workers, the magazine, *Maternity and Child Welfare*, begun in January 1917, will be a useful aid and means of interchange of views.

(4) *The Prematernity System for Large Towns.*—(*a*) The establishment of a complete prematernity system in a large town presupposes the existence of a *maternity hospital* or, at least, of a *maternity department* in a general hospital in that town. It is obvious that the most careful supervision of expectant mothers will be insufficient, and will indeed be largely wasted if it be not grafted on to a maternity hospital or department; for the latter, with beds for confinement cases, is essential for the safe delivery of a certain number of even the most carefully superintended pregnant patients. At the present time, Glasgow, Edinburgh, and Aberdeen have each a maternity hospital, and Dundee has a maternity department in its Royal Infirmary. In this respect these four towns are ready for the establishment of complete prematernity systems. For towns which are smaller than the four just named, but which yet exceed fifty thousand inhabitants, such as Paisley, Leith, Greenock, Govan, and Partick, it would seem that maternity hospitals

or departments in general hospitals should be provided; but when these towns are looked at more closely it is evident that Leith is so near Edinburgh as to be able to use the maternity hospital in it; whilst Govan and Partick, if not Paisley and Greenock, occupy a somewhat similar position as regards Glasgow and its maternity. In the writer's opinion, however, it would be a matter for congratulation if Paisley, Greenock, and Leith were to set aside a ward in their infirmaries for midwifery cases. At any rate, the towns which have been named may be grouped together so far as the supply of adequate mother and infant welfare care is concerned.

(*b*) Next in importance to the provision of a maternity hospital or maternity department in a general hospital for each of these large towns is the presence in the hospital of a *prematernity ward*, with beds for the residential treatment of expectant mothers suffering from one or other of the maladies of pregnancy or carrying infants about whose live birth (judging from former experiences) there may be grave fear. The writer first drew the attention of the profession to the absence of any such wards or beds in the existing hospital system of the country (and indeed of all countries) in 1901, and made an appeal through the pages of the *British Medical Journal* and in other ways for their provision. As an almost immediate result, a sum of money was given to the Edinburgh Royal Maternity to endow one prematernity bed, and this was first put in service in the November of the same year; a few years later a ward was set apart for the purpose, and, at the present time, five beds are always available, whilst three or four more can be utilised if needed. The writer . . . believes that the general principle is now accepted amongst obstetricians that such beds and wards are essential parts of maternity hospitals, and should be provided everywhere. He is of opinion that it is insufficient as well as unsatisfactory simply to regard any bed in the hospital or any ward as provision for such cases when they occur, and, in their absence, to fill them with ordinany puerperal patients. The accommodation should be set aside for the pregnancy cases, the women should know that there are such beds, and the whole part of the hospital devoted to them should be specialised and differentiated for prematernity work. From the medical point of view, it is most desirable to keep the two classes of patients—the expectant and the nursing mothers —apart; the food is different, and the nursing is different. To regard the pregnancy cases as merely occasional dwellers in the hospital, and to say that they can of course always get a bed if necessity arises, are wrong ways of looking at a large and important part of the hospitalisation of obstetrics. The expectant mother need not necessarily remain in the hospital till her confinement; she may go home again after she has been cured of the pregnancy malady for which she was admitted, and she may or may not return for her delivery to the hospital. If pains come on whilst she is in the prematernity ward she will be transferred to the labour ward, and, after the birth of her child, she will be taken to the ordinary lying-in ward where the other puerperal patients are. There is no complexity in the matter; but there is distinct inconvenience from the medical, the nursing, and the hygienic side if the pregnancy cases are dotted at random amongst the nursing mothers.

It has been found that for Edinburgh, including Leith, some five or six beds are sufficient to constitute the residential provision for pregnancy cases. Glasgow will probably require some twenty or twenty-five, whilst a ward with three or four beds in it may be expected to meet the prematernity needs of Dundee and Aberdeen. Paisley and Greenock may begin with two or three beds. In each case these beds should be strictly reserved for pregnancy cases; it will not suffice to borrow them for ordinary puerperal patients on the understanding that they may be given up when needed. Unless the beds are earmarked for the special purpose, and unless the department be differentiated for the prematernity work, no great success will follow its merely potential existence.

The writer has not here presented an enumeration of the kind of case which should find admittance to the prematernity ward; but he has done so elsewhere. It will suffice to say that all the maladies peculiar to pregnancy, as well as some of those accidental to the expectant state, should be accepted; that patients who in the past have given birth to dead or defective infants or who have had miscarriages or premature labours should be welcomed; and that women who are waiting for induction of premature labour, or for some other operation which has to be carefully timed, should not be refused. Accidental maladies of an infectious kind, such as the exanthemata, are hardly suitable, and there may be two opinions about the admission of tuberculosis, syphilis, and insanity. If, however, there are many cases of syphilis it will be wise to set aside special beds for its management. The writer has never drawn any distinction between married women and unmarried girls, holding that medical and not moral reasons should decide the question of admission or exclusion; but if space and beds are available it will be useful to separate the two classes in the prematernity department, just as it is common to do so in the lying-in portion of the hospital.

(*c*) These two means, the maternity hospital and its prematernity department, may be taken as representing the residential part of the mother welfare portion of the hygienic provision for young life which large towns should supply. . . . Let consideration now be given to what one may call the periphery of the system, to that part of it which first comes into touch with the expectant mothers as they move about amongst and mix with the general mass of the population of these large cities.

(1) Expectant mothers who have a qualified medical attendant, will, of course, be looked after by him or her. In such cases the family doctor will do all that is required. . . .

(2) Expectant mothers who have engaged a midwife or a monthly nurse will be brought into touch with the prematernity system through them. So long as the pregnancy is normal the midwife will undertake the supervision, but in the presence of any abnormal development she will call in a qualified practitioner or take the patient to a maternity centre. The monthly nurse's duty is simple: since she cannot, under the Midwives Act, attend the patient herself, she will see to it that she engages a qualified practitioner (or a midwife), and she (the monthly nurse) will work under his or her direction.

(3) There remain the expectant mothers who, on account of poverty or ignorance, have engaged neither doctor nor midwife, and who have not even bespoken a monthly nurse. They may be superintended either by voluntary health visitors (working under the Medical Officer of Health or someone on his staff, *e.g.* a certified midwife); or by nurses working in the out-patient department of a maternity hospital, a dispensary, or a maternity centre, who may hear of them from patients whom they are attending; or, as in Boston, U.S.A., by a special body of women specially instructed in the hygiene of pregnancy, termed prenatal nurses, who make it their business to go through the population, get into touch with expectant mothers, and endeavour to persuade them that they should be under medical or nursing supervision. Clearly, this will be a difficult part of the work, for, of course, some pregnant women will escape all these means of being reached, and may be found at the time of labour with no provision made for the baby and without having had any supervision themselves. Compulsion being excluded, one will be forced to rely upon persuasion, education, and the gradual dissemination of knowledge respecting the advantages from the standpoint of comfort and safety which supervision offers both for the woman and her unborn infant. The writer has elsewhere endeavoured to give some hints as to the best ways in which health visitors and others may reach and gain the confidence of the expectant mothers; but, no doubt, these visitors will discover for themselves the most effective plans. The writer is strongly of the opinion that, although establishing touch between the expectant mothers and the prematernity system may be one of the

initial difficulties, it will soon cease to be a serious one; information soon travels, one woman tells another, the visitors moving about among the people become familiar figures, and the benefits to be received from supervision get to be known.

The duties of the health visitors, prematernity and prenatal nurses are simple. They consist in endeavouring to persuade all the expectant mothers who are not under medical or nursing supervision already to go to one or other of the maternity centres and place themselves under care. It will be their object to see that every woman goes, whether she is feeling ill or in robust health. They will explain that one of the great objects of their work is to prevent evils arising; they will point out that, even in normal cases, certain preparations have to be made and that there are right and wrong methods of making these; they will in some cases speak of the slight and insidious nature of some pregnancy ailments, and they will, to some extent, detect and draw attention to signs of disease which they observe. They will, also, emphasise the benefit which may accrue to the unborn child from the care which is taken of his mother. The duties of these visiting women are simple, but, at the same time, great tact and sympathy are required in the putting of them into practice.

(*d*) After the expectant mothers have been reached, they must be brought into contact with the purely preventive and educative part of the prematernity system, namely, the maternity centres. In small towns and country districts curative work of a certain degree may be carried out in these centres, but in the large towns now under consideration their function is, first and last, prevention and education. They need not necessarily be isolated from the rest of the work; they may be held in a part of a dispensary, and they may even be within the walls of the maternity hospital itself; but in a large city, like Glasgow or Edinburgh, they will almost of necessity be more numerous than the dispensaries, and they ought to be within easy reach of the mothers' homes. It will generally be convenient if they are situated away from the more central part of the prematernity system. It may be added that the same building may be used on different days or at different hours of the day as a maternity and as an infant health centre.

The maternity centre, let it be stated once and for all, should not be of large size or of great complexity. It ought to be quite simple and inexpensive. In it are to be held the pregnancy clinics, the clinics for nursing mothers, and the consultations for infants at the breast; in it also the young children up to five years may be seen. In the opinion of the writer, however, this part of the work should not be included within the scope of the maternity centre (*vide antea*); it may be carried out in the same building, but it ought to be under the name of infant or child health centre. The part of the work of the maternity centre which is at present being considered is the pregnancy clinic, known also as the antenatal or prematernity clinic.

It will be convenient at this point to describe a typical maternity centre such as is needed, and is in use in large towns.

It may conveniently be situated in the ground floor of a tenement or in a cottage, and it should be as near as possible to the mothers for whom it is intended, so that no great time may be occupied in reaching it and no great exertion required. Maternity centres should be placed in those parts of the city where the population is densest and where, consequently, the expectant mothers are most numerous; it will generally be found that these are the areas in which the infantile mortality is highest, and, consequently, these in which the greatest benefit is to be expected from supervision and education. An even distribution of the maternity centres is not, therefore, what is needed, but a concentration of them in the districts in which they will do most good. With respect to their number, it will be necessary to be guided by circumstances, such as the number of dispensaries in existence and their location in the needy districts; but in the writer's opinion a working plan of one maternity centre for every thousand expected births may be adopted as probably a sufficient provision. If there are two antenatal clinics held in each week, and if every expectant mother were to pay one visit during the nine months of her expectancy, this would mean ten mothers seen at each clinic; but it is very unlikely that these numbers will be realised, at any rate in the early months and years of prematernity work. Some women will be cared for by doctors and midwives; others will go to the antenatal clinics

at dispensaries and at the maternity hospital; and not a few will (at first) not go at all. If the number of births in the year in a given town is, say, 6000, then six of these maternity centres, conveniently and suitably placed, should be a sufficient supply. It is impossible to be more precise, for, of course, towns like Glasgow and Dundee, with large manufacturing interests, will require a larger provision than the more residential centres, such as Edinburgh and Aberdeen.

A minimum of three rooms with a lavatory and w.c. attached will be required for a maternity centre; but great advantage will accrue if two or three further apartments can be added. There should be one large room for the mothers assembling and waiting in. It should be big enough and so constructed that it can be used for the giving of lectures on mothercraft in all its departments; there should, therefore, be a blackboard, forms, table, etc., and the lighting (natural and artificial), the heating, and the ventilation should be good. There should likewise be in this room a permanent exhibition of articles required for confinements, clothing of babies and nursing mothers; and on the walls there should be some striking but simple diagrams or pictures showing how things should be done or (preferably, perhaps) how they ought not to be done. During the time of waiting the mothers might have the various exhibits pointed out and explained by the sister or nurse in charge. Connected with this large room there should be a smaller one, in which two or three expectant mothers at a time could be prepared for seeing the doctor. In this apartment, which should be well warmed and furnished with comfortable chairs, etc., the main facts of the woman's medical history would be recorded, along with her name, address, number of past pregnancies (if any), symptoms in the present one, analysis of urine for albumen, sugar, and, possibly, other unusual contents. . . . The woman should then pass under the care of the sister into the consulting room. Having all the facts of the case before him or her, the doctor will consider the history, the symptoms, the record of the urinalysis, and the physical conditions. . . . If the pregnancy be found to be proceeding normally, and if no conditions exist such as to make the forthcoming labour difficult or dangerous, the patient will be supplied with some literature giving simply expressed, brief, and practical hints as to the care she shall take of herself, and warning against danger-signals and risks, and will be asked either to report herself again in any case, or to return if unusual symptoms emerge. If slight abnormalities exist, the doctor will give advice accordingly. Very minor ailments may possibly be dealt with then and there; less slight maladies may necessitate the sending of the woman on to a dispensary, where she will receive all medical care except residential treatment; whilst the indications of more serious troubles will lead to the doctor arranging for her admission to the prematernity department of a hospital, where she will be again examined by a specialist and, if need be, given a bed in the prematernity ward. Of course there will be intermediate cases in which the doctor will require to use his or her judgment as to the best course to pursue.

It must never be forgotten that the chief, almost the only, purpose of these pregnancy clinics in maternity centres is to detect signs of impending danger and to prevent them maturing. They are preventive and educative agencies. They are as listening-posts for the recognition of the slightest whisper of danger. . . .

It will be well, in most cases, that the sister in charge of the centre shall visit the woman in her own home within a few days of the consultation in order to see that she has understood and carried out all the preparations for her confinement and the means for securing her own health which were described to her at the clinic.

The minimum of accommodation has been set forth in the above description; but, obviously, it will be of great assistance if a fourth room is available for the exhibition of baby clothes, etc., so as to keep the waiting-room for the sole purpose of the patients assembling. It will also be an advantage to have two lavatories and w.c.'s for the staff as well as the patients.

The staff need not be large. There must be a fully qualified doctor, who may, and probably will, be a woman; she will attend twice a week or oftener at a fixed hour, and she will be ready to see any patient in her own home if the medical or hygienic requirements of the case demand such a visit or visits. There will also be a certified midwife or trained prematernity nurse, upon whom will rest the responsibility of marshalling the women, preparing them for the doctor's examination, demonstrating to them the exhibits, seeing that they understand the instructions given, giving them suitable literature, carrying out very simple preventive medical measures, and visiting them in their homes to instruct them further in hygiene and to see that recommendations have been carried out. It will be a great help if the midwife can have a nurse in training with her to aid her and to keep the records, do the weighings, make the urine analyses, etc.

It is not easy to arrive at precise estimates of the cost of carrying on maternity centres,

for circumstances will vary in different towns; but if the centre be used twice a week—once for the expectant mothers and once for the babies and young children up to five years—the Women's Co-operative Guild of London calculate that the total cost need not be more than £190, made up as follows:—

Two rooms—one where the women would wait and the babies be weighed; another where the doctor would see the women. Rent 10s. to £1 weekly.	£35
Medical equipment—a weighing-machine and other requisites	5
Furniture	5
Staff: 1 part-time doctor at £1 per afternoon for two afternoons	100
2 competent helpers to keep records, etc., for two afternoons	15
Cleaning	20
Fires, light, stationery, etc.	10
	£190

It is easy to criticise this estimate, and, certainly, it is to be doubted if it be large enough to allow the best kind of work being done. At the same time, it is interesting to have some assurance that purely preventive work of this kind can be carried out at a cost of not more than £200 for each maternity centre. The work outlined by the Misses Macdonald and Atherton in their Prize Essay on "Maternity and Child Welfare Work" (1917) is much more ambitious, and the figures they supply are for a whole scheme in a district with 2500 births a year. They amount to £1500, and they include £450 to a doctor, five full-day consultations weekly; but these writers do not give any estimate for a single small maternity centre such as the Women's Guild deals with.

The ideal scope of the work of the maternity centres in a large town is the supervision of all the expectant mothers who are not already in the care of qualified medical practitioners (men or women) or of certified midwives. Whether it should include attendance at confinements is perhaps an open question. The answer will depend to a great extent upon the provision existing in the city for attendance upon such labours in the out-patient department of the maternity hospital or in connection with dispensaries. In university towns these confinements will probably be attended by medical students or by pupil nurses in training for the diploma of certified midwife, in the one group under the supervision of doctors and in the other under that of certified midwives. But in towns without such teaching institutions it may be advantageous to arrange for attendance by the sister in charge of the maternity centre (she being a certified midwife), with the oversight of the medical practitioner of the centre, who shall also be responsible for the abnormal labours.

(*e*) In addition to the maternity centres such as have been described, a mother welfare scheme will also make use of any dispensary existing within the city. It is of the utmost importance that any such institution which is already in being should be utilised.

It will leave to the maternity centres, as a rule, the purely preventive or educative work, and will rather busy itself with such expectant mothers as need more than the centres can give.

It will thus be the place to which patients who are found at the centres to be suffering from one or other of the ailments of pregnancy can be sent. It will deal, therefore, with a smaller number of cases, and its work will be curative mainly. Of course women who are pregnant may go direct to the pregnancy clinic at the dispensary; they will there receive preventive and educative benefits just as they would have done at the maternity centres; but the prematernity parts of the dispensary is rather for the pregnant women who are ill (although not confined to bed) than for those who are well and merely require to be kept so. A record of all the patients attending the pregnancy clinics at a dispensary (mother welfare register) will be carefully kept, and this will be more elaborate and specialised.

In fact, the dispensary is expected to act as a place where consultations for the abnormal cases coming to the centres can be got. The cost of running pregnancy clinics at dispensaries should be comparatively small, for the rooms and appliance and staff are there already; but as the work will be increased, and record-keeping on a larger scale will be expected, honoraria to the medical specialist and to the certified midwife, with a grant to the dispensary for additional medicines, dressings, etc., will be requisite.

(*f*) The remaining link between the expectant mothers in the community and the prematernity ward in the maternity hospital now requires to be referred to, viz. the *pregnancy clinic* in the hospital and its staff. This clinic is essentially a specialist's affair. It is intended chiefly for the women who have been found (at the maternity centres and dispensaries) to be suffering from diseases and morbid states complicating pregnancy of such severity as possibly to require residential treatment ; but it will also welcome patients sent to it by medical practitioners who are not connected with these prematernity institutions, and it will never refuse to examine and advise expectant mothers who may be found to be quite healthy. Still, it is essentially the " clearing house," so to speak, of the whole prematernity system, the place to which the most serious cases are directed, and the means of placing the best expert knowledge of pregnancy maladies within the reach of every woman in the community.

> Its pregnancy clinics will not differ greatly in method from those held at the maternity centres or in the dispensaries ; but they will be in the hands of a more numerous and more specialised staff, will be more elaborate in their technique and more detailed in their investigations, and, most important of all, they will have at their call, so to say, the prematernity beds of the hospital. According to the number of expectant mothers in the community, the maternity hospital will furnish one, two, or more pregnancy clinics in each week ; and the clinic will make itself specially responsible for all the patients who are sent on to it from maternity centres, dispensaries, and private practitioners, as well as for those who may be recommended to it from the out-patient department of the maternity hospital. It will meet within the maternity hospital or in some conveniently adjacent building ; and it will be officered chiefly from the medical and nursing staff of the hospital.
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> It will consist of as many rooms at least as are available at the centre or in the dispensary ; but it will be advisable for the hospital authorities to develop one part of the building or, it may be, a separate building as its prematernity department. In the ground-floor of this part of the hospital or of this separate block the pregnancy clinics can be conveniently held, whilst the prematernity ward and beds may be on the first floor. There should be a special means of entrance to this part, so that expectant mothers need not come through the general portion of the hospital in order to reach the clinics. As has been stated already, there are many reasons why the residential part of the prematernity department of the maternity hospital should be kept separate and distinct from the labour and lying-in wards of the institution, and the same reasons apply to the out-patient portion of the prematernity system in which the pregnancy clinics are conducted. If considerations of space are urgent, the rooms devoted to these clinics may be utilised (on other days or at other hours) for the seeing of the nursing mothers and young babies ; but in the planning of new hospitals the architect ought to endeavour to keep the two departments—the prematernity or antenatal and the puerperal or postnatal—separate.
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> The waiting-room should be large, well lighted, well ventilated, and well heated, so as to be comfortable in winter for the mothers who may have to wait some time in it. There should be an abundance of low forms and comfortable chairs, a few tables for literature with simple instructions on the hygiene of pregnancy, and for exhibits of accouchement outfits, etc. On the walls may be diagrams or lists of requisites for confinements and the like. Opening out of this room, and with lavatory accommodation, should be an apartment in which two or three mothers at a time can be prepared for their visit to the consulting-room. A nurse will be in charge of this room, and, in addition to preparing the women, it will be her duty to enter in the card index some of the details of the patients' histories—*e.g.* name, address, age, number of pregnancy, etc. . . . This preparing- or dressing-room need not be large, but it must be well heated and provided with two or three high screens, with toilette necessaries and the like. It communicates, on the one hand, with the waiting-room, and, on the other, with the consulting-room of the specialist in which the examination of the expectant mothers takes place ; it is the 'tween apartment of the pregnancy clinic suite. From it the patient passes into the consulting-room. . . . The card with the preliminary details of her history and complaint goes with her. She is seen by the head of the clinic, who is a specialist in obstetrics, and he has with him a medical officer, who may be one of the house surgeons of the maternity hospital or may be

specially appointed to the prematernity department; the nursing head of the department (a certified midwife) will also be present, and she will be aided by a nurse (who may be a pupil in training for the midwives' diploma). The medical officer will see to the testing of the urine, the taking of the blood pressure, the writing of prescriptions, and the recording of the conditions found by the consultant. The last-named duty may, however, be carried out by the sister or her assistant nurse, or by a clerkess in charge of the card index of the mother welfare register; but if a clerkess be employed, it will be desirable that she has had or be having a nursing training. She may be a woman medical student.

This leads to the consideration of the pregnancy clinic as a place of teaching. There can be no objection to one or two medical students being present during the clinic, but any larger number will require consideration. The needs, too, of the postgraduate (man or woman) must not be forgotten. Indeed, the value of such work for the young graduate is very high. At the same time, it is obvious that the number of students must be strictly limited if the expeditious and efficient working of the clinic is to be secured.

After the consultant has completed his examination and has decided whether the patient is to pass into the prematernity ward or return to her own home, she will return to the dressing-room; will have any details of treatment carefully explained to her; will, in some cases, receive a prescription; and will, in all instances, be given the educative literature on pregnancy hygiene which the hospital supplies. Of course, if she is to be admitted for hospital treatment she will go to the residential part of the building and, after the usual formalities, be given a bed in the prematernity ward or, possibly, in a few cases (in which she has been found at the clinic to be already in labour), she will go direct to the confinement part of the institution. Meanwhile the rest of her history, the results of the examination, and the treatment recommended will be entered in the records and either retained for reference or (in cases of admission) sent with the patient into the hospital. . . .

The writer has thus traced in detail the prematernity system as he would like to see it in operation in the large towns of Scotland. Beginning at the centre in the maternity hospital, and in the prematernity ward of that hospital, he has passed to the outskirts of the system where the expectant mothers are moving about in their own homes among the general population; he has shown the means by which and without any new legislation these women can be brought into contact with the system, and superintended and kept well in most cases; relieved from suffering and nursed back to health in others; and given useful and necessary information about their state and the preparations for the future well-being of themselves and their expected babies in all; and he has given some account of the connecting links by which the various parts of the system are administratively bound together and made a harmonious and smoothly working whole.

(*g*) The case of the unmarried mothers and their expected but illegitimate infants, however, calls for special consideration. There will be difficulty in reaching them and bringing them into the prematernity system, and the most carefully and diligently applied search for them in the general population of a large city may fail of complete success. But the difficulty exists now and is hampering the beneficial work of many of the health agencies already in being. . . . Room has always been made for them in the Edinburgh Maternity Hospital, and the writer has uniformly stated that admission for the sick ones to the prematernity ward when it exists should never be made to depend upon their married or unmarried condition; at the pregnancy clinic, also, no obstacle should ever be placed in the way to prevent them getting the advice and treatment they may require for their own sake, for that of their unborn children, and for the general welfare of the population. At the periphery of the prematernity system, health visitors, midwives, doctors, and the officials in charge of maternity centres and dispensaries should be

particularly on the alert to get in touch with the unmarried expectant mothers, and they should give both time and trouble to the achievement of this object. . . .

(*h*) The references which have just been made to illegitimacy and to the unmarried mother suggest another pressing concern of all mother welfare work in large cities, viz. the control of the venereal diseases. The Royal Commission on Venereal Diseases, who made their final report in the early part of 1916, did do no more than reveal what was already known to, or if not known yet strongly suspected by, the medical profession. There is no obstetric physician in charge of a maternity hospital who has not come across instances in which whole series of antenatal lives have been sacrificed to syphilis, and no gynecologist is unaware of the potency of gonorrhœa to prevent conception occurring at all. The writer knows of nothing so destructive, so noxious, and so malefic to life before birth as the venereal diseases. . . .

It will be well if every part of the prematernity system is brought into touch with the officials who will be looking after the improved means for the diagnosis and treatment of venereal diseases ; for it is precisely at maternity centres, in pregnancy clinics, at dispensaries and maternity hospitals, and in the prematernity ward that early cases of infection will be seen. . . . The detection of the spirochæte of syphilis in the placental tissues may give an early and perhaps the only indication of the presence of this malady in mother and child at this time in life, a matter of great importance in connection with such occurrences as premature confinements and the birth of atrophic infants. . . . Obviously, the nearer the medical profession can come to those maladies at their origin the greater will be the hope of speedily checking them before they have wrought their worst effects, and, in the long run, of preventing not only their spread but their very beginning ; the linking up of the town's preventive and curative measures with the prematernity and maternity systems will greatly facilitate this end.

(*i*) Closely bound up with and dependent upon the prematernity system in a large city is the management of the *prematurely born children.* This is really a problem of antenatal life, for the premature infant is nothing else than a fœtus out of his proper environment ; he is like a fish out of water, a raw recruit without full equipment charging the enemy's trenches, a schoolboy seated at the master's desk—what you will. The writer, a good many years ago (1902), stated this enigma of the fœtus suddenly called upon to play the part of a newborn infant, and he then suggested several lines along which a solution might be reached ; but the premature infant still remains one of the greatest, if not the very greatest, problems of early postnatal life. Part of this problem must be left in the hands of the obstetricians and pediatrists ; but there can be no doubt that every large city ought to have administrative machinery for the watching over and the keeping alive of prematurely born children. They are not necessarily " weeds "—the writer, in fact, is not pessimist enough to regard any human beings as " weeds "—although the infants who are both syphilitic and prematurely sent into the world can only be redeemed with a great expenditure of time, skill, and care. Certainly every maternity hospital ought to have for their reception

a small ward, suitably lighted (or rather, darkened) and warmed, fitted up with electric incubators, presided over by a sister trained in the management and hygiene of premature infants, and under the direction of a physician who has made a special study of these slenderly equipped and fragile lives. Possibly the establishment of an infants' hospital, provided not only with the means of treating but also with the same apparatus for scientifically studying premature and atrophic babies, may best meet this need in a large city. Undoubtedly, something requires to be done for them, and that quickly, for their deaths are swelling the infantile, and especially the prenatal, mortality tables, and their lives in their unredeemed state are introducing weaklings into the general mass of the population. They are worth saving, and great things may be hoped for from such at least as are not tainted with syphilis or the offspring of parents seriously diseased. Isaac Newton, the scientist, and Locke, the philosopher, were prematurely born infants ; and George III. of long life was one also.

Here, as elsewhere, the writer believes that the real and only satisfactory solution of the problem lies in the care of the expectant mothers, in the resulting prevention of premature labours, and in the consequent retention of the fœtus in his antenatal home until the proper time for his issuing forth ; but, in the meantime, these too early comers must be looked after and cherished by the health authorities of a great city. They should be starred, so to speak, in all health records, and the fact of their prematurity should be an item of information handed on to the School Medical Officer when they reach the age of five years and come to be under his supervision.

(5) *The Prematernity System for Small Towns and Country Districts.*—The provision to be made for prematernity work in large cities has been outlined in the preceding pages, and the writer has now to report on the needs of the smaller towns and country districts. In neither of these places can there, of course, be any system approaching in its size and complexity that which is possible in the large cities with their hospitals, dispensaries, and abundant charitable, educative, and hygienic institutions of all sorts. Something much simpler must suffice.

> The problem is still the same, namely, to bring the expectant mothers in the population into touch with the doctors and nurses capable of supervising, educating, and, if need be, treating them when ill ; but one must be content to forgo some of the links in the chain of means and agencies. . . .
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> There is a considerable number of Scottish towns—such as Ayr, Kilmarnock, Dumfries, Dunfermline, Kirkcaldy, Coatbridge, Perth, Stirling, and Falkirk—which have fairly large populations and existing hospitals or infirmaries ; in their case it ought not to be difficult to set aside two or three beds for confinement cases and one or two for pregnancies in these institutions ; and the nursing need not be a hindrance, for so many matrons and sisters nowadays hold the diploma of the Central Midwives Board, although they are not often called upon to act as midwives. Two or more of the local medical practitioners could form a small consulting staff to meet abnormal midwifery cases requiring aid or to give advice to women suffering from the serious maladies of pregnancy. In normal—that is, non-war—times young graduates, men or women, intending to specialise in midwifery would be available to act as visiting or resident obstetricians. This same obstetric consulting staff, with some leading laymen and laywomen associated, could organise a number of health visitors who would be supplied with suitable instructive literature and would be sufficiently educated themselves to tender useful advice and to direct sick expectant mothers where to go for further help and management. Necessarily, a large number of these women would be under the care of their own doctors, and some of the normal cases

would be looked after by midwives; but even to them the obstetric and prematernity beds in the local hospital would occasionally be a great boon. . . . The mother welfare work would, doubtless, be conjoined with the child welfare, the same people and agencies being employed for the double service. Mothercraft classes and other educative work—such as lectures on infant feeding and clothing, common errors in the rearing of children, and the like—could be given by the doctors of the town or district.

In still smaller towns and in country districts the provision for prematernity work would be yet more restricted and simpler. Towns and districts with cottage hospitals or small infirmaries might set aside a bed or two for maternity and prematernity cases, would insist on the matron or nurse in charge holding the midwives diploma, and might secure the services of a medical practitioner for the difficult or dangerous confinements and pregnancies. Many of the Queen's Jubilee Nurses hold the diploma of the Central Midwives Board and could officiate in country districts, if called upon, in normal labours. Thus, such towns as Huntly, Dunoon, Oban, Banff, Dufftown, Coldstream, Rothesay, Wick, Alloa, Helensburgh, Arbroath, Forfar, Montrose, Inverness, Lanark, Nairn, Johnstone, Hawick, Kelso, Galashiels, and Stranraer might provide themselves with restricted but sufficient means for watching over and treating expectant mothers and women in labour. Again infant welfare schemes and arrangements would naturally be combined with the work among the mothers.

Educative means would necessarily play a large part in the small towns and country districts. Use should, in every case, be made of the local doctors, and especially of those familiar with the prematernity systems of the large towns, who might give lectures; and booklets, simply and clearly written, should be circulated amongst expectant and nursing mothers. A most valuable educative means is the Travelling Exhibition of Maternity and Child Welfare Requisites and Literature. . . . That plan of itineration might well be adopted for the whole of Scotland, and it ought, of course, to include teaching on pregnancy, its hygiene and its dangers. The Queen's Jubilee Nurse could, in most cases, follow up the work after the Exhibition had paid its visit, and quite small local committees, containing doctors, might systematise and control the work. When necessary, help could be obtained from the nearest large town with a maternity hospital and a prematernity system.

By these means the smaller towns and country districts, simply by utilising and co-ordinating existing agencies and adding a few workers, could have the needs of their expectant mothers and young infants fairly well supplied. A more extensive scheme would be the careful mapping out of all Scotland into districts and the setting up of maternity centres with pregnancy clinics and meetings for nursing mothers and infants in all of them; but this plan would place a heavy burden upon doctors and nurses and would require a considerable sum of money, whilst there would be some districts in which the amount of aid and treatment given would almost inevitably be disappointingly small.

There is a problem which will not easily be solved at the present time, namely, the springing up of large towns in places where, previous to the war, there were only a few hundred inhabitants. For these new concentrations of population temporary arrangements will be more appropriate, for the causes which brought them into existence may disappear and the need for prematernity and maternity systems disappear with them.

(6) All prematernity systems of mother welfare, whether in large or in small towns and country districts, must be linked on to the Local Government Board through the Medical Officers of Health. The M.O.H. should be the sole and responsible head of the whole system under the Local Government Board and (in the large towns) the Health Committee of the Town Council or other municipal body; but he should have round him for consultative purposes a special committee which may conveniently be the same as that which advises on the child welfare. On this committee there should be obstetric and pediatric specialists, representatives of the directors and managers of the hospitals and charitable institutions in the scheme, and (in the larger towns) representatives of the teaching institutions (universities, medical schools, midwives' schools, Jubilee Nurses, etc.). Possibly, there should be a connection established with the religious and philanthropic bodies of the place, and there may be other developments according to local

needs (*e.g.* in large towns with large manufacturing enterprises and works). At the same time many of these bodies will naturally have their representation on the Town Council, when it will be convenient to keep the advisory committee small.

Under the M.O.H. there should be a superintendent medical officer (woman or man), who may be also the inspector of midwives for the town; and under her will be the midwives, health visitors, and the like connected with the care of the expectant mothers in the population. Working into this system will be the doctors and nurses in charge of hospitals and dispensaries. The details necessarily vary much with the size of the town or district, and with local needs and facilities; only the main outlines can be sketched in here. The salaries and honoraria also will vary with the need of the place and with the nature and amount of the duties and responsibilities involved.

Results and Statistics

. . . Dr Philip van Ingen (*Report of the Proceedings of the English-Speaking Conference on Infantile Mortality at London*, 1913, p. 357) has given an account of the campaign of prenatal hygiene in New York carried out in 1912–13. Eight trained nurses, under the supervision of a directing nurse and a field physician, and with the advice of two volunteer medical directors and a medical council, made friends with expectant mothers and, with their permission and approval, visited them at regular (fortnightly) intervals and advised them on various matters. Under exceptional circumstances the field physician also saw them; but, generally, if there were any abnormalities in the pregnancy the trained nurse recommended the patient to see a doctor or visit a hospital, even on some occasions accompanying her. In various other ways these trained nurses helped the expectant mothers, and kept up their supervision until a month after the confinement. The campaign was carried on by the New York Milk Committee and in the Borough of Manhattan (the old city of New York). In all, 1819 mothers were supervised for at least two months of their pregnancy, and of these, 2 died, or a percentage mortality of 0·11; 1847 infants were born, of whom 68 were stillborn, giving a stillbirth-rate of 36·9 per thousand pregnancies; whilst of the 1779 born alive, 53 died during the first month, giving a first-month death-rate of 29·8 per thousand live births. The stillbirth-rate for the whole of Manhattan was, for the same period, 48·1, and the first-month death-rate was 40·6; so that the results as regards the fœtuses and newborn infants of the supervised mothers were much better than for the general population, including, of course, the most fortunate as well as the poorest people. Further, 93·3 per cent of the babies were nursed entirely by their mothers, 3·6 per cent. were nursed partially, and only 3·1 per cent. were artificially fed.

Still more convincing are the figures furnished by Dr Michael M. Davis for the prenatal work in Boston (*Boston Medical and Surgical Journal*, vol. clxxvi. p. 5, 1917). Supervision in pregnancy was given in two sections of the city (East and South Boston) during 1914 to 9·3 per cent. (353 cases) of all the cases, and during 1915 to 10·7 per cent. (394 cases) of the total. The prenatal care consisted of the medical examination of the expectant mother in the majority of cases by a specialist in obstetrics, and in the remaining cases by the family physician; and in educational and advisory visits by the prenatal nurse, beginning in the majority of the cases five weeks before the confinement and being made at from weekly to fortnightly intervals. Confinement in almost all cases took place at home, less than 4 per cent. going to hospitals; and thereafter intensive postnatal care by the visiting nurse, under the physician's supervision, was carried on for a period of between ten days and two weeks. The results were really very striking.

With regard to stillbirths: in 1914 and 1915 there were 2 per cent. among the prenatally supervised cases and 4 per cent. for the whole of Boston. This was a significant

fact, but the deaths after birth gave even more remarkable results. In 1914 the infantile mortality among the babies of the prenatally cared for women was 37·5 per thousand (or 13 deaths in 346 live births); among the babies (in the same wards of the city) who had not received such care the infantile mortality was 109·3—almost three times as high. But it may be said that the postnatal care had to do with this result; the answer to this is found in the death-rates under one month and one week, when it could not be supposed that special feeding or other postnatal influence could be at work. The death-rate under one month in 1914 for the prenatally cared for babies was 17·3, and in 1915 it was 25·9; these figures contrasted with 46·5 and 39·7 respectively among the infants whose mothers had not been supervised in pregnancy. As to the death-rate in the first week among the prenatally cared for babies, it was 11·5 in 1914 and 15·5 in 1915, as compared with 34·4 in 1914 and 27·9 in 1915 among those who had not received prenatal attention. Let it be repeated: the death-rates under one year, one month, and one week among the prenatally cared for babies were one-half or one-third less than those among the infants whose mothers had not received supervision in their pregnancy. There are, however, two possible fallacies, the economic condition of the families and the intelligence of the mothers. Dr Davis excludes the first, for the prenatal cases were drawn mostly from families of low income; as to the second, he states that he had no reason to believe that the mothers who received prenatal care represented any higher order of intelligence than the *average* of their locality. With regard to the latter conclusion the writer is inclined to join issue with Dr Davis, and to regard it as very unlikely that women of low intelligence and possessing little or no real prospective and anticipative affection for their infants, would be the ones to welcome and retain the services of the visiting and instructing nurses. The writer thinks it is probable that some little selective action here came into play, and that the intelligently affectionate expectant mothers came more easily under preventive supervision. But even if an allowance be made for this selective action, the results are most striking and encouraging in a high degree to all interested in prematernity work.

The conditions in Paris during the early months of the Great War (1914) were certainly most abnormal; but even there and then the measures which were taken to supervise expectant and nursing mothers and to supply pure and good milk to the infants gave astonishingly good results, as is abundantly shown in articles by G. Vitoux (*Arch. mens. d'obstet. et de gynec.*, Dec., 1915, ann. iv. pp. 339–445) and Professor Pinaird (*Ann. de gynec. et d'obstet.*, 1916, 2, s. xii. 65; *Le Journal*, No. 8585, March 29, 1916; *Bull. de l'Acad. de med.*, lxxvi. 540, 1916; lxxvii. 26–42, 1917), and in the discussion taken part in by Strauss, Bar, and Richet thereon. The writer firmly believes that the prenatal campaign in Paris to save expectant and nursing mothers and their unborn and newborn infants was no less a grand thing than the world-moving victory of the Marne happening outside the walls. He believes that the appeal of the *Office central d'assistance maternelle et infantile* to the Parisians in these autumn days of 1914 will become historic. The words were: "Parisiens, Les pères sont à la frontière; Défendons les Mères et les petits Enfants; à leur aide, et vite; Sauvons nos Bébés!" The means taken to save them were prenatal supervision and care and the establishment and continuance of breast-feeding after birth.

It is much less easy to furnish figures and evidence of the value of prematernity work in maternity hospitals. When a maternity hospital opens a prematernity ward the first effect will be, in all probability, an increase in its mortality tables, for it will undoubtedly draw to itself serious cases of disease in pregnancy which would, in the absence of prematernity beds, have remained outside and would, if fatal, simply have been added to the general mortality of the city. Nevertheless, the writer believes firmly in the good which has already been accomplished by the opening of prematernity wards, good which is not solely to be measured by births and deaths, but also by suffering relieved and pain lessened. He would present the following statistics which give a complete statement of all the cases dealt with in the prematernity ward under his care in the autumn quarters of eight years (namely, for twenty-four months) from 1908 to 1915 inclusive. He was not on duty in the other quarters of these years.

TABLE SHOWING THE MAIN RESULTS OF THE PREMATERNITY WORK DURING THE AUTUMN QUARTER FOR EIGHT YEARS (1908–15) IN THE EDINBURGH ROYAL MATERNITY HOSPITAL

Years. Autumn of	Number of Cases.	Mothers.			Infants and Fœtuses.		
		Lived.		Died.	Alive.	Dead.	
		Undelivered.	Delivered.			Antenatal.	Postnatal.
1908 . . .	30	6	23	1	14	12	3
1909 . . .	32	7	24	1	16	8	2
1910 . . .	29	12	17	0	14	2	1
1911 . . .	26	5	20	1	16	7	0
1912 . . .	36	2	33	1	17	17	3
1913 . . .	32	4	26	2	21	5	4
1914 . . .	40	11	28	1	23	4	4
1915 . . .	43	12	29	2	24	4	4
Totals . . .	268	59	200	9	145	59	21

With regard to the nine maternal deaths, the writer would point out that two only (one due to croupous pneumonia and one due to acidosis) occurred while the patient was in the prematernity ward; the remaining seven all took place after delivery, two of them indeed after his quarter at the hospital was over and he was no longer in charge of the patients. At the same time they were all, save the case of croupous pneumonia and one of cerebellar tumour, due directly or indirectly to the state of pregnancy. The causes of death in the other seven were chorea gravidarum, hyperemesis, acidosis, albuminuria with hypothyroidism, phlebitis, and gastric ulcer. The writer is of opinion that this maternal mortality (3·3 per cent.) was wonderfully low when the grave nature of the cases is taken into account, and he is quite certain he could not have saved nearly so many of the mothers if they had come to him for treatment in a hospital without a prematernity ward. For instance, among the 268 cases there were 34 suffering from grave albuminuria; only one of these developed eclampsia (a 1909 case), and only one died (in the quarter following the writer's and ascribed by the physician in charge to hypothyroidism). No more striking example of the beneficent results of preventive treatment could be given. There were thirteen expectant mothers admitted who had developed eclampsia before they came in, and they all recovered. There were, of course, other instances of eclampsia in the hospital, but in none of them was labour delayed long enough to give prematernity treatment—in other words, they were not in time to get into the prematernity ward. Details of all these cases are given in the *Journal of Obstetrics and Gynæcology* (vol. xv. pp. 93, 169, 1909), and in the *British Medical Journal* (vol. i., for 1916, pp. 189, 234, 275), and can be consulted there. The number of fœtal deaths was high—59 out of 225—but then all the abortions (including several twins and a triplet one) were counted as fœtal fatalities (the triplet case as three). The inclusion of the abortions, of which there were some nineteen or twenty which were not preventable, and the grave character of so many of the maternal diseases fully served to explain the high antenatal mortality. The first-month deaths (21 out of 160 who came alive into the world) were not numerous when the circumstances were taken into account.

Further, 59 pregnant patients (out of 268) left the hospital undelivered, but with the maladies on account of which they were admitted cured; it is reasonable to believe that a large number of them gave birth to living infants happily. So far as the results of prematernity practice in hospitals are available they are decidedly encouraging.

As the other parts of the prematernity system (outside the hospital) are put into working order the results will grow still more gratifying, for the cases will be recognised much earlier and will consequently come in for treatment much sooner.

Indirect evidence of the value of pregnancy wards is to be found in various quarters. For instance, Professor Paul Bar (*Arch. mens. d'obstet. et de gynec.*, 1912, ann. i. 162),

found that of 153 cases of placenta prævia, always a grave complication of labour, he lost 14 mothers, 4 from hæmorrhage and 10 from sepsis; the cases were managed in two hospitals, one of which encouraged the taking in of pregnant patients, whilst the other did not; the 10 deaths from sepsis were all in the latter institution. Of course other factors may and doubtless were at work; but it is undeniable that a better chance is given to secure asepsis in a hæmorrhage case if the patent is brought into hospital at the very first sign thereof.

Speaking generally, the results which ought soon to manifest themselves after an efficient mother welfare or prematernity system has been established are as follows:—

1. Fall in the number of abortions.
2. Fall in the stillbirth-rate; decrease in morti-natality.
3. Fall in the first-month and infantile death-rates.
4. Decrease in the number of maternal deaths in labour and in the puerperium.
5. Decrease in the number of serious illnesses in pregnancy.
6. Increase in number of breast-fed babies.

Later, one ought to witness:—

1. Rise in the birth-rate.
2. General improvement in the health of school children.
3. Fall in the general death-rate.
4. General improvement in the health of the whole community.

Conclusion

From the facts which have been stated in the foregoing pages, from others which have not been specifically referred to, and from the daily accumulating store of evidence which will soon be available, the writer is of opinion that there is at the present time an immense loss of infantile life before, during, and soon after birth.

It is well known that much of the loss at birth is preventable by good obstetrics, and that the postnatal loss can be, and to a large extent has been, greatly lessened by proper feeding and hygiene. But it is not so commonly recognised that a very great deal of the prenatal loss is also preventable, nor has it been realised how much prenatally acquired morbid states are responsible for what may be called the residual mortality at birth and in the first month, which neither the best obstetrics at the time of delivery nor the most careful feeding and supervising in the early weeks of postnatal life can check.

These prenatal morbid states can be reached only through the expectant mother; for, with the exception of the rapidly dwindling list of truly hereditary diseases which may come from the father, the grandparents, or ancestors further back, they are mainly conditioned by her.

In the case of syphilis modern scientific discoveries are more and more tending to discredit direct paternal transmission of this malady to the embryo, and to demonstrate that the mother, although she may not show any obvious symptoms and signs of the disorder, has nevertheless been infected by her husband, and has become the transmitter of the disease to the child. This contains no excuse for the father and no lessening of his responsibility to his child; but it points to the mother as the one upon whom to concentrate our curative efforts, whilst the father ought to be brought under the influence of preventive measures of the most rigorous description.

The writer is well aware of the other cases and he is not forgetting them (they will have to be provided for); but he is intentionally emphasising the

great importance of reaching the unborn infant through his immediate environment, which, or rather who, is none other than his mother.

It is only on this foundation that the whole prematernity system is to be built up; this is why the advice "concentrate on the mother" is so good; this is why the whole campaign of prenatal supervision is being now so insistently pressed, notwithstanding the other campaign which is absorbing nearly all the energy and life-blood of the nation; and this is why the greatest problem in present-day public health is the care of the expectant mother and her unborn infant. . . .

ADDENDUM

Books:

1. Diseases and Deformities of the Fœtus, 1892.
2. Manual of Ante-natal Pathology and Hygiene, vols. i. and ii., 1902, 1904.
3. Expectant Motherhood: its Supervision and Hygiene, 1914.

Articles, Papers, Notes, etc., on antenatal hygiene, prematernity, prematurity, and other related subjects (44 articles in all).

3. *Comments.*—In his elaboration of administrative detail, Dr Ballantyne aims at making the case for prematernity practically convincing. In this he succeeds. He pleads, it is true, as a specialist for a specialism; but he seems to make out a strong case for this particular specialism. In cities like Edinburgh, Glasgow, Aberdeen, or Dundee, where, in the atmosphere of medical schools, specialism of every kind is carried to a refinement unknown in the provinces, the provision for prematernity in all its phases ought to present no difficulty. Such difficulty as it does present is due partly to the nature of the organisation through which maternity service is provided, partly to the limitation of funds necessarily incident to all such voluntary organisations. Now that Imperial and local funds are available to supplement voluntary contributions, the difficulty of expanded provision should diminish. All the official schemes for the cities include some provision, consultative or institutional, for prematernity. Of the need for such provision no question can be raised; the provision itself is simply a matter of money and organisation.

But Dr Ballantyne appears to me to underestimate the institutional provision necessary for a large city, and provincial district. In a normal year Edinburgh has considerably more than 6000 expectant mothers. If the proportion needing attention be as numerous as Dr Ballantyne maintains, the provision of only five or six prematernity beds seems to me inadequate. In a normal year Glasgow (including the recent extensions) has nearly 30,000

expectant mothers. It is difficult to believe that Glasgow would be adequately provided by some twenty or twenty-five pregnancy beds. This doubt is strengthened by the experience of other institutions in Edinburgh and Glasgow, particularly those dealing with the unmarried mothers. Of such institutions some definite details are found in the chapters on the provisions for the unmarried mother and her child.

It is no doubt true that, when a system of local prematernity consultations is fully developed, the expectant mothers will receive much practical direction. But it is equally certain that, as the numbers increase at the consultations, the claims for residential treatment will also increase. At present this whole department of life has been left so completely to individual organisation that the data accumulated are of little value as a guide to the future. All we can say with reasonable probability is that much more institutional accommodation is wanted for expectant mothers.

But the prematernity system technically so-called must not be interpreted too narrowly. If the terrible infantile death-rates of the first four weeks are to be reduced, the mothers must have greater facilities than they now have for rest and care in the period immediately preceding their confinement. This is included in the general conception of prematernity; but in the elaboration of the morbid aspects of the prematernal condition we are apt to overlook the fact that the mother in normal health also needs systematic direction and care before confinement, and that the mothers in normal health are the vast majority. On these grounds, it seems to me that every crowded community where housing presents dangers to the prospective mother and child ought to have a considerable number of maternity homes for normal confinements, and these homes should be organised on the presupposition that a preconfinement period has to be provided for. In the institution for unmarried mothers at Lauriston Place, Edinburgh, this is the principle followed. It hardly needs justification. In the particular instance, the preconfinement residence is due to the temporary social disability of the unmarried mother; but for purely physiological reasons the married and unmarried alike have a claim to this type of attention.

On these general grounds, therefore, I consider that the whole problem of prematernity must be conceived on larger lines than obstetricians or gynecologists even of the medical schools at present

entertain. At present the institutional facilities open to prospective mothers is very small. How great it ought to be I have no data for suggesting; but that it should be much greater than at present I cannot doubt. The experience of the Hospice in Edinburgh is conclusive that the moment cheap accommodation is provided the mothers come gladly and pay without pressure. Further, all the accommodation for prematernity as well as maternity has, until now, been provided out of voluntary funds. The work these voluntary institutions have done is relatively very great and very admirable. But, if the figures I have given are carefully considered, the work of the voluntary institutions will be seen to need great expansions along the lines not merely of provision for the morbid cases, but also of provision for the normal cases.

4. *Notification of Pregnancy.*—On the notification of pregnancy, medical opinion is divided. At a discussion of the Public Health and Gynecological Sections of the International Medical Congress at London in 1913, the plea for obligatory notification was strongly put and as strongly resisted. In his special study of a Highland district, Dr Miller puts the case in favour, and his opinion should have great weight; for he has had enormous experience among a sensitive and delicate-minded people, and he knows all that can be said on the other side. Nevertheless, personally, I am not persuaded of the present urgency of notification. And that for three primary reasons—*first*, that the cases asking for advice will, for years to come, be more numerous than any Local Authority can deal with; *second*, that more institutions for the care of expectant mothers and nursing mothers are an immediate necessity and will be used wherever they are provided; *third*, that obligatory notification is somewhat too direct a method of meeting this particular group of problems. I should prefer the information to come, not as an enforced confession, but as a free and confidential utterance flowing from the mother's knowledge of her right to medical assistance and care, and from her sacred feeling that nothing less than the best is good enough for the young human life she carries. Two motives struggle for the mastery: the reserve of modesty and the pride of motherhood. I should like to preserve to each its rights. Our social organisation should be such as to take new life and impulse from the pride of a mother in her offspring. This ideal is far away in a community where the

penalty for concealment of pregnancy is two years' imprisonment. The ferocity of the penalty is a measure of the shame that leads to the concealment. So long as this penalty remains on the statute book, I cannot but fear that the obligatory notification of pregnancy will place an additional disability on the poor and on the unfortunate. Perhaps I overstrain the case ; but, for the present, I should prefer to see the new schemes of maternity and child welfare develop resources equal to the rising demands. Probably the question of notification will then answer itself.

5. *Danger of Over-Specialisation.*—In the cities with medical schools there is always the danger of over-specialisation. In the smaller towns, the officers charged with the working of the schemes must face all the problems as they appear—prematernal, maternal, and infantile. Whether the newborn infant shall pass to the children's doctor or remain with the mother under the maternity doctor is really a question of convenience. It should not colour, in any degree, the provision to be made either in the larger or in the smaller towns for prematernity or maternity.

As time goes on, maternity and child welfare schemes will create the need for more whole-time medical officers. This is the invariable sequence whenever a section of medicine passes from a private service into a public service. As with medical inspection of schools, tuberculosis schemes, and public health generally, the type of work to be done at prematernity consultations is not the type of work ordinarily done in private practice. This is not to say that men in private practice are incapable of doing what is wanted ; it is rather to say that the private practitioner, in fulfilling the public service, undertakes a class of work that, normally, in his private practice is merely fractional. But the amount of such work to be undertaken will increase to limits at present unascertainable. Further, as a public officer he does not end his advice merely by directing his individual patient ; he is in a position to secure, through skilled nurses or health visitors, to what extent, where and how his advice shall be carried out. As the practice of medicine passes on to this administrative plane, the medical man's duties also change their character. In prematernity work, an essential object of the consultations, whether dispensary or hospital, is to maintain touch with the particular patient. This cannot be done fully except through a staff acting under general directions.

6. *Present Provision.*—As illustrations of the provision hitherto made for prematernity the following facts must suffice. It is, however, well to remember that the general work of a maternity hospital is, in large measure, also prematernal. What is here given concerns only prematernity as specially provided for.

Edinburgh.—"In Edinburgh weekly prematernity and infant clinics have been conducted since May 1915 by the physicians of the hospital. The attendance averages from twelve to fifteen mothers or infants. There is a special district superintendent midwife in charge of that department since one medical and one surgical nurse were appointed to visit in the homes pregnant women made known to them by patients. These nurses obtain particulars of conditions, etc., fill up cards, and return these to the matron, who decides whether the district superintendent nurse should visit or patient should attend consultation. The women that attend the clinic do not necessarily enter the hospital for confinement, but about 60 per cent. of them do so. A register is kept of all attendances, giving name and address of patient and doctor's remarks. Medicines are prescribed.

"The premises in which these clinics are held consist of one room, divided into two by means of a wooden partition, and lavatory accommodation in the basement of the hospital. There is a separate entrance from a side street, which is on a level with the basement. The patients wait in the outer half of the room, and are seen by the doctor in the inner half. Assisting the doctor there are one of the resident doctors and two nurses. The consulting-room is rather noisy and not very well lighted, having one window of translucent glass. Artificial lighting is by means of gas; the floor is covered with linoleum; a coal-grate and a sink are fitted in the doctor's room. The prematernity ward (five beds) is lighted by two windows to the north and two windows to the east, and heated by an open fire. It contains married and unmarried women. This prematernity ward has been in existence for sixteen years. An endowment of £100 for the Hamilton Bed was the beginning of this ward." (Report by Dr Mary Menzies and Miss Ireland.)

Glasgow.—In Glasgow the work of the antenatal department of the Glasgow Royal Maternity and Women's Hospital, Rottenrow, is sufficiently indicated by the following extract from the Annual Report for 1915:—"During the last few years there has been a marked increase in the number of patients who have applied for advice, or been sent by their doctors for advice, on complications connected with pregnancy. It has always been the practice of the hospital to give the advice sought for, and to admit patients requiring indoor treatment, but the work has now been systematised by the opening of an antenatal dispensary for two days in the week under the charge of the assistant physicians, and two wards have been set apart for the indoor treatment of cases requiring it. The value of this work cannot be overstated. It is of the utmost importance that patients suffering from the diseases incidental to pregnancy should receive early and appropriate treatment. This is especially true in kidney complications, which are apt to be very serious, but if properly and timeously treated can be brought to a favourable issue. The dispensary was opened in September. The total number of cases seen at the hospital or in the dispensary was 445, but, in addition, 399 cases were admitted to the wards. The cases treated in the wards represented 28 different kinds of kidney complications, besides the 73 cases of convulsions mentioned in the report of the obstretrical department; 31 cases of severe vomiting; 22 cases of heart disease; 9 cases of lung disease; 7 cases of displacement of the uterus; while of the remaining complications the number of cases dealt with varied from 1 to 5 in each class. The period of treatment in the wards extended in some cases over many weeks.

"During the past year the hospital has been called upon to treat a very large number of miscarriages. Many of the patients were recommended for admission by doctors, and some were extremely ill. The increase in the number of these cases is so great that it appears advisable to draw attention to it. It is not supposed that more of these cases are occurring than usual, but it is an undoubted fact that a larger proportion of them are coming to the hospital for treatment. Although many beds are thus occupied, the fact that more ill-health can be traced to miscarriages which have not been treated than to full-time confinements, renders it of great importance in the interests of these women that they should come to the hospital. There they can obtain proper treatment and the rest in bed which they cannot get at home, but which is essential for their recovery.

"The aim of the antenatal department is the prevention of the serious results which

follow on the complications of pregnancy, and prejudice the safety of the patient. The crisis of labour taxes the energies of the strongest woman, but if the woman be the subject of disease her chances are enormously decreased. It is, therefore, of the utmost importance that any complication should be treated during pregnancy in order that she may be in a condition to pass through the crisis with safety. For the majority of working women treatment at home is impossible, and they can only obtain it in the hospital.

"The proper and timely treatment of the complications of pregnancy will, of course, tend to a larger birth-rate; and an antenatal department is a necessary part in any plan made for the salvage of child life. The corollary is a postnatal department in which the babies born in the wards, and in the outdoor practice of the hospital, would be watched during the period of nursing, and the mothers guided in the rearing of their infants. A scheme is now on foot for the establishment in connection with the hospital of a dispensary for this purpose," (Annual Report for 1915.)

Dundee.—In the maternity wards of the Dundee Royal Infirmary five beds are reserved for unmarried women before confinement. But, from the information obtained, I do not find that there is any special prematernity clinic. It is, however, certain that a great deal of prematernity work is done incidentally to the general work of the maternity wards. Doubtless, as the Dundee scheme develops, special provision will be made for prematernity clinical work.

Aberdeen.—In Aberdeen, at the Maternity Hospital, consultations for expectant mothers were opened in February 1916, and are held once a week. The following notes were made by Dr Menzies after a visit made on 14th June, and sufficiently indicate the amount of work done:—

"Professor M'Kerron attends if there is a patient. The numbers have been, in February, three married patients; in March, two married and one single; in April, one married; in May, four married; in first two weeks of June, two single patients. These patients have been referred to this clinic by general practitioners, or have come up to register for admission.

"Since February, infant consultations have been held once a week by Professor M'Kerron.

	Legitimate Babies Attended.	Illegitimate Babies Attended.
In February	2	1
In March	1	3
In April	1	2
In May	5	2
In June (2 weeks)	3	..

"From these consultations a few cases of malnutrition have been admitted."

7. *Conclusion.*—These are effective beginnings. They are not anything more. The numbers show that, whenever advice is available, the mothers soon learn to come for it, but as the municipal schemes develop the numbers will certainly increase. I can only say that, in my opinion, the demands of the near future will compel a great expansion in the provision for prematernity.

CHAPTER III

PROVISION FOR MATERNITY: THE NURSING MOTHER

1. *Problems of Maternity.*—At the 1911 census there were in Scotland 1,145,745 women of ages from fifteen to forty-five. These are the potential or actual mothers. In the year 1915 there were born alive 114,181 children. If, as in the discussion on prematernity, we add the numbers born dead or not arriving at maturity, we may place the total number of children born at more than 120,000. In the year 1915, therefore, there were in Scotland, say, over 114,000 nursing mothers. Of these, 698 died from puerperal conditions. How many of them died from diseases flowing from the puerperal condition, but not recorded as such, or from other diseases not unconnected with the birth, or from current diseases aggravated by the exhaustive work of nursing, or from diseases contracted as the result of low nutrition or overwork during the nursing period, we cannot ascertain from the figures recorded by the Registrar General. It is well known that deaths due to puerperal conditions are not all certified as due to their real cause; but some are certified as due to some supervening disease, such as pneumonia or nephritis. How much this error amounts to it is impossible to say; but every Medical Officer of Health knows that the error is real.

It is not easy to suggest how the deaths should be recorded in order to show the real effects of pregnancy, parturition, and nursing on the mothers. Perhaps this is a matter for a closely circumscribed research in controllable conditions rather than for a general statistical record. Anyhow, it is certain that the published figures for the deaths gives us no clear indication of the numbers of mothers that die either from non-preventable or from preventable causes. On the other hand, if we consider all women of ages from fifteen to forty-five—the ages of reproduction—we find that in 1915 the deaths amounted to 6574. These, of course, are not all deaths of actual mothers; but they are deaths of actual or potential mothers, and, if our social organisation were really effective, we should be in a position to provide adequately for the vast numbers of diseases

implied by that terrible number of deaths. In a percentage this death-rate is not high—only ·5 per cent., or 5 per thousand persons living; but in the gross number it is a serious figure, and, taken as an index of large numbers of untreated or undiscovered disease, it is a figure that cannot be neglected. If you look down the columns of the Registrar General's tables, scrutinising the main causes of this large total of deaths, you find that of 3787 deaths of women from tuberculosis (all forms) the ages of fifteen to forty-five furnished no less than 2121. If we take pulmonary phthisis alone, we find that, of a total of 2517 deaths of women the ages of fifteen to forty-five furnish 1797. The corresponding ages in men furnish like amounts; but we are concerned for the time only with mothers, actual and potential.

These figures show how much has to be done if the potential and actual mothers are to be preserved at their highest vigour. Their preservation really involves the whole medical administration of the country. It is largely from the women of those ages that our dispensaries and our hospitals draw their female patients. It is women of those ages that suffer the heavier stresses of industry, both within the home and without. The care of the mothers in the widest sense means the care of all the women. But this carries us into questions too large to be profitably discussed here. All we can do is to indicate roughly, from the very imperfect data we have, what is done to provide for the actual mothers.

2. *Analysis of Puerperal Deaths.*—Let us, therefore, look, first, a little more closely at the deaths recorded as due to puerperal conditions.

(a) *Distribution of Puerperal Deaths.*—Deaths from puerperal conditions include some infectious diseases. Of these, one disease or group of diseases is named "puerperal fever." But the distribution of the deaths from puerperal conditions does not correspond with the ordinary distribution of the infections. The larger burghs, the smaller burghs, and the county districts show very little difference in the death-rate per thousand births. In Scotland, as a whole, for the year 1915 the maternal death-rate from puerperal conditions was 6·1 per thousand births. In the larger burghs it was 6·2; in the smaller burghs it was 6·3; in the county districts it was 5·9. The death-rate for the individual large burghs runs from a minimum of 4 in Leith to a maximum of 16 in Ayr. But the leading figure lies somewhere between 6 and 7. This peculiarly uniform distribution shows that special factors operate as causes of deaths among mothers. The infections

they contract in the puerperal period are usually conveyed to them directly by the infected hands of the midwife or doctor. Occasionally, special circumstances may make infection unavoidable; but, as a rule, the infection of the mother at confinement is absolutely preventable. Where confinements are conducted on the most rigid lines of aseptic surgery the amount of infection that occurs sinks to practically nothing. Many doctors can give records of thousands of cases without a single death from puerperal fever. It may, therefore, be inferred that the great majority of the cases of puerperal fever are due to want of knowledge, or want of skill, or some other variety of defect in technical capacity or training.

(b) *Attendance by Doctors and Midwives.*—This inference is confirmed by the following facts taken from the Report for 1913 by Dr A. K. Chalmers, Medical Officer of Health, Glasgow. In an investigation of 149 cases of puerperal fever registered in 1913, Dr Chalmers found that in 15,198 births attended by doctors there were 51 cases of puerperal fever—that is, a rate of 3·4 per thousand births. In 14,836 births attended by midwives there were 98 cases of puerperal fever—that is, a rate of 6·6 per thousand births. Dr Chalmers adds: "Before accepting these rates as final, and more particularly before accepting the greater relative incidence of puerperal fever in cases attended by midwives as resulting from defective technique, it is necessary to remember that the midwife's practice is more frequently among the poorer classes and in the smaller houses, and that these are factors which, while incapable of expressed statement, must be taken into account when considering difference in incidence."

As, however, the incidence of the births in the poorer and more crowded houses is not shown, we cannot tell how much to attribute to house conditions. But in the discussion of the one room-house it is shown (p. 178) that the conditions of life in one room tend to intensify the incidence of all infections. Puerperal fever must be counted with the rest.

But if we are to assign a certain proportion of the midwives' cases to circumstances beyond their personal control, we are only strengthening the case for increased institutional provision. If the houses are not fit places for children to be born, the domiciliary midwife system cannot be regarded as a satisfactory provision for maternity. Neither can the domiciliary doctor system. But, to the extent that puerperal infection can be definitely assigned to defective knowledge, defective skill, and defective care, the disease is preventable. The processes of prevention have received a powerful impetus from the Midwives Act, and, when the Public Health Authority develops its full powers of medical supervision of midwives, a reduction in the number of cases of puerperal fever may with reasonable certainty be expected. This, however, is only one step in the improvement of the provision for maternity. It will do something; but it will not do much. If it is to have the large effect desired by the community it must be supplemented by the provision of more institutions for the treatment of prematernity, for the conduct of confinements, and for the treatment of morbid and dangerous cases.

(c) *Case Rate per Thousand Births, and Case Mortality per Cent.*—The following table from the same report collates the case rates per thousand births and the case mortalities per cent. over a period of years. It is a very

instructive table. It shows that under the steady supervision of a Public Health Authority the notifications have continued to increase. Personally, I am satisfied, both from direct experience and from information obtained at various times and places, that the notification of puerperal fever is among the least satisfactory applications of the Notification Act. The notifications do not represent the truth with any adequacy. This Glasgow table alone proves that conclusion. But through the maternity and child welfare schemes now preparing the whole conditions of service will be improved, and the notifications will go down because the cases will go down, not because they will be concealed. It is a staggering fact that in the twenty-three years summarised by Dr Chalmers the case mortality per cent. has fallen only from 64 to 52. In other words, of every 100 women in Glasgow that are infected with puerperal fever more than half die. This assumes that the numbers notified are correct. But even if we allow for a large margin of error, the case death-rate is still very high. It is only another proof that wherever the conditions of life are bad, the mothers' chances of death are high.

Puerperal Fever—Erysipelas

(*Report of the Medical Officer of Health, City of Glasgow*, 1913.)

Year.	Puerperal Fever.				Erysipelas.
	No. of Cases Notified.	Case Rate per Thousand Births.	Case Mortality per Cent.	Death-rate per Million Living.	Death-rate per Million Living.
1891	80	4·0	75·0	105	115
1892	63	2·8	68·3	64	84
1893	73	3·1 } 3·2	63·1 } 64·1	68 } 70	75 } 85
1894	64	2·8	54·7	51	83
1895	74	3·2	59·5	63	69
1896	105	4·4	53·3	79	55
1897	62	2·6	54·8	48	49
1898	71	2·9 } 3·3	53·5 } 61·4	52 } 68	40 } 44
1899	83	3·4	72·3	82	45
1900	78	3·2	74·3	78	32
1901	71	2·9	83·1	71	60
1902	90	3·6	55·5	51	51
1903	108	4·3 } 3·8	63·9 } 64·8	53 } 60	44 } 48
1904	89	3·6	66·3	53	53
1905	108	4·5	55·5	74	33
1906	119	4·8	48·7	69	62
1907	122	5·1	48·2	70	44
1908	119	5·0 } 4·9	47·9 } 52·3	66 } 70	29 } 41
1909	108	4·7	60·2	74	38
1910	113	5·1	56·6	72	34
1911	133	6·1	44·4	75	45
1912	142	6·5	42·3	76	36
1913	149	5·2	34·2	49	62

The Rates quoted above are based on data obtained from the Registrar General's Reports.

The case mortality stated above must be taken with a good deal of reservation, especially in the earlier years, when it is probable that many of the milder cases were not notified.

(d) *Special Causes of Puerperal Deaths.*—Of the classified causes of puerperal deaths, some are beyond the possibility of prevention; but conditions like puerperal sepsis are, as we have said, practically all preventable. If Dr Ballantyne's argument for better care of prematernity is accepted, many of the other causes of death are also preventable. But the deaths must not be considered as an isolated fact. As with all other causes of death, they are taken merely as rough indicators of a multitude of evil conditions that range from the merely negligible to the certainly fatal. In thinking of maternal deaths we are apt to fall into the same abstraction as when thinking of infantile deaths. We forget that death is only a climax among the effects of evil conditions of living.

In the five years from 1911 to 1915, 3525 mothers, varying in age from fifteen to forty-five, died of puerperal conditions—an annual average of over 700. Of the deaths, 223 were due to abortion and miscarriage; 498 to puerperal hæmorrhage; 618 to puerperal albuminuria; 976 to puerperal sepsis; the remainder, 1310, to other causes. Here we have 2215 deaths, of which probably 1500 were due to preventable causes. The leading cause of death was puerperal sepsis, which accounted for nearly 1000 mothers. The next cause was puerperal albuminuria; the third, puerperal hæmorrhage; the fourth, abortion and miscarriage. Here we have deaths at the rate of some 7000 in ten years. In a proportion that can only be conjectured, they are preventable. That they are not prevented proves the gross inadequacy of our methods of prevention. How difficult the problem of prevention is may be further gathered from the sketch given below of the working and effects of maternity benefit.

(e) *The Drain of Mothers.*—The drain of mothers is the most serious fact of social biology. That only six Scottish mothers should die for every thousand Scottish children born is a minor matter—statistically. But it means—infants robbed of their nurses, families robbed of their first friends and teachers, husbands robbed of their companions and confidants. The death of the mother means the maximum of unhappiness to the family she leaves. It is in this light that we must read the facts, and in this light the facts are like no others.

3. *Maternity Hospital Provision.*—The hospital provision for maternity cannot, from any standpoint, be considered adequate. The maternity hospitals of Edinburgh, Glasgow, Dundee, and Aberdeen have done a great amount of work on the highest level of medical service. They are both hospitals and training schools. It is difficult to disentangle the effects due to the various factors in their constitution, for they serve as essential teaching institutions in the medical schools; as training grounds for midwives and maternity nurses; as hospitals for the accommodation of all varieties of case.

But, like so many similar institutions, they are perpetually faced with financial difficulties. They can expand only within relatively narrow financial limits. They work mainly with unpaid medical staffs. Accordingly, it is practically impossible to estimate the precise bearing of any one of these factors on the value or efficiency of the hospitals strictly as hospitals. But the following statements are sufficient indication of the normal activities of these hospitals. Under the agreements with the approved societies the hospitals have already expanded very considerably their sphere of use, and under the schemes of infant and maternity welfare the hospitals will expand still further their range of work. In this period of rapid change it is impossible to estimate what additional accommodation, even within the next three or four years, will be provided. That the expansions will be considerable cannot be doubted; they are absolutely essential to the efficiency both of the administration of maternity benefit, whether the money payment be increased or not, and to the efficiency of the maternity and child welfare schemes to be prepared by the Local Authorities. It is probable too that the Local Authorities themselves may have to establish lying-in institutions and hospitals. The demand is so steadily rising that existing institutions are not likely to meet it.

The following detailed descriptions, prepared by Dr Mary Menzies and Miss Bertram Ireland from direct inspection, indicate the nature and size of the maternity hospitals of Edinburgh, Dundee, and Aberdeen. The Glasgow details are taken from the last annual report available.

(1) Edinburgh Royal Maternity and Simpson Memorial Hospital

Dr Menzies and Miss Ireland visited this hospital on 8th August 1916. It has been in existence for over seventy years, and is supported by the interest on various endowments and legacies, a grant of £15 from Edinburgh Town Council, nurses' and students' fees, and voluntary subscriptions and donations.

The ordinary expenditure for the year ending 31st December 1914 was £3050, 16s. 1d., and exceeded the ordinary income by £216, 13s. 7d. There are two bed endowments of £1000 and £600 respectively. The reserve fund at 31st December 1914 was £903, 4s. 6d. In the year ending 31st December 1915 the ordinary expenditure was £3209, 16s. 6½d., and the ordinary income was £3648, 5s. 0½d.

The office-bearers in connection with the hospital include a president, 4 vice-presidents, 5 extraordinary directors, 16 directors, an auditor, and secretaries and treasurers. There is also a medical board consisting of 1 consulting obstetrician, 1 consulting physician, 1 consulting surgeon, 1 consulting ophthalmic surgeon, 1 honorary and 1 assistant pathologist, 4 ordinary obstetric physicians, 4 assistant physicians and 6 extern assistant physicians.

The present premises are now found to be rather small for the work of the hospital, and plans exist for an extension.

The resident staff consist of—2 physicians (only one at present); 1 matron; 1 sister (trained in hospital for three years); 3 charge nurses—one for night duty, and two for day duty, one on each floor (not always fully trained); 1 district superintendent nurse

(who is usually but not always fully trained) for outside work, relieves matron, etc.; 1 sister in charge of the Leith branch (she is usually fully trained); 32 probationers—at different stages. These have a six months' training in this hospital unless thay have had a full training elsewhere, in which case they remain four months; 10 domestic servants; 1 daily washerwoman.

In regard to the probationers, they must be resident and must take the midwifery training. The fee for four months' training, which qualifies for a certificate, is £15, 15s., and for six months' training, which qualifies for admission to the Central Midwives Board examination, £22, 1s. They have to provide their text-books, midwifery bags and uniform, and pay their laundry accounts. In the first month of training the probationers have a good deal of bathroom work, washing up, bed-making, etc.; they are also taught how to swab a patient, and how to bath a baby; they are present at the delivery of cases in the labour ward, and their names are put, very early, on the slate to act as mother's nurse and baby's nurse and to attend at the confinement. Each probationer is responsible under supervision for the patient and the infant from the time of the beginning of labour until the time of the patient's discharge from hospital.

A junior probationer may be sent to an outside case with a senior probationer.

In the second month, the probationer has labour-ward duty and is taught the examination of the patient; while she is still responsible for her former mother and baby.

In the third month, the probationer is taken by a senior nurse to do district work for part of her time, either in Edinburgh or Leith. In the fourth and fifth months, the nurse is on district work and is given more responsibility and more serious cases.

In the sixth month, the probationer does night duty.

During her training the probationer has one week of receiving-room duty. She is taught the sterilisation of milk for babies. The probationer does not attend a fixed number of indoor cases. A nurse who has had labour-ward duty is not sent on outdoor duty until she has attended a number of cases. When probationers are considered sufficiently trained to be responsible for cases they are sent out together at night.

From six to eight probationers commence training each month.

On the ground floor of the hospital are a receiving-room, which has a bed, disinfector, gas fire, linoleum on floor, washed walls, and one window; ward kitchen, and labour ward with 4 beds, a gas fire and one window.

On the first floor are (1) the matron's sitting-room; (2) the prematernity ward (5 beds) (see page 33); (3) the maternity ward for unmarried mothers after delivery. It contains 12 beds and cots, and is lighted and ventilated (cross) by 10 windows; heating is by open fires. There are here two electric incubators in frequent use, and the matron considers them "very satisfactory." These two wards have polished floors, colour-washed walls, and the artificial lighting is by means of electricity. There is a ward kitchen and lavatory accommodation in connection with the larger ward; (4) a single-bed private ward.

On the second floor, which is reached by a stone staircase, are the following:—(1) the labour ward, which is also the operating theatre. It is lighted by three windows, heated by an open fire, contains 2 beds, an operating table, disinfector, etc. The walls are painted, and the floor of terrazzo; (2) ward containing 5 beds, for special cases; it is lighted and ventilated (cross) by four windows and heated by an open fire; (3) maternity ward containing 12 beds for married women, which is lighted and ventilated (cross) by ten windows; there is a ward kitchen and also the necessary lavatory accommodation; (4) four private wards containing 1, 2, 3, and 4 beds each; (5) isolation ward containing 3 beds.

Fees charged are:—7s. 6d. per case for outdoor cases, an extra charge being made for chloroform. Indoor ward cases in the big ward are 10s., or 15s. per week when operation is required. £1, 1s. per week is charged for patients in private wards of two or more beds (£1, 10s. for the full period of ten days). £1, 10s. per week is charged for a single ward.

Work Done

"From the following table it will be seen that in 1914 the hospital has treated a considerably larger number of cases than in 1913. The directors welcome this not only for itself, but as indicating that the misunderstandings in the public mind that followed the coming into force of the maternity benefit provisions of the National Health Insurance Act have largely been removed" (*Annual Report*, 1914).

	1870.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Indoor	199	372	395	425	464	549	612	615	591	633	489	586
Outdoor	349	511	520	576	606	663	763	756	879	806	614	797
Leith Branch	—	—	—	—	219	437	539	540	528	476	381	545
Total,	548	883	915	1001	1289	1649	1914	1911	1998	1915	1484	1928

In 1915 the cases were: indoor, 354 (married), 302 (unmarried)—total, 656; extern, Edinburgh, 597 (married), 27 unmarried—total, 624; Leith Branch, 465 (married), 25 (unmarried)—total, 490; grand total, 1767.

(2) The Hospice, 219, High Street, Edinburgh

This is a maternity hospital with an out-patient department and a district maternity practice at 219 High Street.

It was visited on 28th April 1916. There is a House Committee which meets once a month. Members of this committee visit the hospital. The expenditure for the year ending 30th November 1915 was £578, 9s. 9d.

There is accommodation for seven maternity cases. One ward contains 4 beds; a ward called "the nursery" can contain 3 beds. There are some free beds, but all indoor maternity cases are expected to pay from 7s. 6d. per week; whilst a charge of 2s. per week is made for babies. No arrangement has so far been made with the Insurance Commission for obtaining any portion of the maternity benefit directly from the insurance societies. Private rooms can be arranged.

The mothers are provided with clothes whilst in hospital, their own being sent home. Each maternity patient is kept for ten days or until quite well. The women are generally very poor and are, for the most part, wives of labourers. Unmarried women are admitted.

The premises consist of first and second flat, with a private inside stair. The common stair is rather steep and narrow. There is electric lighting, and gas is provided throughout. Some apartments are furnished with hot-water radiators. The walls are distempered above a painted dado, and most of the floors are covered with linoleum.

On the first floor is the out-patient department, consisting of doctor's room and waiting-room. These rooms have a southern outlook and are suitable for their purpose. As the steps of the inside wooden staircase cut into the upper landing, there is a flat board which can be placed across the gap to enable patients to be carried directly from the ordinary ward to the labour ward.

On the second flat are two small wards with southern aspect, the bathroom, and, with a northern aspect, the day nursery.

The maternity ward contains 4 beds and 4 stretcher cots. It has a southern outlook, and is bright and sunny. It is lighted and ventilated by three good windows of the sash type. It is heated by a gas fire. There is no through ventilation.

The nursery ward has a southern outlook, is bright and sunny, and on the day of my visit contained three cots and a stretcher cot. It is lighted and ventilated by two good windows of the sash type, and is heated by a gas fire. There is no through ventilation. Each cot is provided with a bag for the baby's clothes. The mattress and pillows are of flock. Malnutrition babies are kept in this room. Charts show weight and diet.

The day nursery: there is a wooden balcony opening off the day nursery on which there is a specially constructed frame in which the infants can lie. Matting is put on the floor, as the planks are rather wide apart. The milk is sterilised in the day nursery, and each child has its own teat, labelled or numbered. The bottles, when not in use, lie in a bowl of water covered with muslin. Both nursery and balcony have a northern aspect. At the date of visit the day nursery was practically the milk-, bottle- and teat-room, a purpose for which the northern exposure is not a disadvantage.

The bathroom is rather dark, but lighted by electricity. It is furnished with bath, hot and cold water supply, a sink for washing napkins, a pulley, a hot pipe, steriliser, gas ring for heating the water for hot-water bottles, etc.

The labour ward is furnished with a bed with solid bottom and feet slab, wash basin, weighing-machine, instruments, dressings, sterilisers, and an incubator that is never now used. The patient is kept here for about one hour after the birth of the child, and is then carried on a stretcher into the ordinary ward.

The resident staff consists of the matron, sister, night nurse (all with C.M.B. certificate), and the pupils. There is accommodation for four pupils. A fee of £25 is charged for six months' training. The pupils also obtain some experience in the nursing of malnutrition babies. The dispenser is non-resident. The sister is responsible for district cases, and she and the pupils take the outdoor maternity cases, for which a fee of 5s. is charged. The pupils must make visits alone in the latter months of their training. Outdoor cases are visited regularly daily for the first ten days after confinement.

Work Done

The number of indoor maternity cases attended during the year ending 30th November 1915 was 49, and the number of outdoor cases was 194. There were 358 out-

patients. These were chiefly maternity and gynecological cases. The out-patients' department is open on Thursday afternoons.

Domestic staff: a cook, house-tablemaid, and a housemaid—all resident.

At present a woman doctor is medical officer for the malnutrition babies' ward, and another woman doctor attends the maternity cases when required. No operations are performed here; when these are necessary they are done at Bruntsfield Women's Hospital. For vaccinations a fee of 1s. is charged.

(3) The Work of the Glasgow Royal Maternity and Women's Hospital, Rottenrow

is indicated by the following extract from the report for 1915:—

"*Obstetrical Department*

"The total number of cases attended in 1915, including both indoor and outdoor cases, amounted to 3645. The following table gives the figures:—

	Normal.	Abnormal.	Total.
Indoor Cases, ...	544	1106	1650
Outdoor Cases (Hospital), ...	1111	432	1543
Outdoor Cases (West End Branch), . . .	337	115	452
			3645

"Comparison with the figures for 1914 shows that there has been a decrease in the number of outdoor cases, but an increase of 72 in the number of indoor cases—67 per cent. of the indoor cases were abnormal, representing an increase in the number of serious cases. There has been a corresponding increase in the number of operations performed—626 in all, as against 481 in 1914. It has been the experience of the medical staff that the number of difficult and serious cases admitted to the hospital has increased of late years. There were no fewer than 45 Cæsarean sections, and in 11 other cases hysterotomy was performed; 73 cases of convulsions were admitted during the year, and most of them were of a very serious character. The outdoor cases at the hospital show a larger proportion of normal cases—but 432, or 28 per cent., were abnormal. At the West End Branch 452 cases were attended at their own homes, and the number of operations was 58. 25·4 per cent. of the cases at the West End Branch were abnormal. The number of students and postgraduates who attended the hospital was 98, and the number of pupil nurses in training was 96.

"*Gynecological Department*

"It is deeply to be regretted that the wards set apart for gynecological cases are still closed. During the past year the work of the dispensary has been carried on under great difficulties. All the staff have been doing military duty, and only one of them, viz. Dr Martin, has been stationed in Glasgow. On him therefore the whole burden of carrying on the dispensary has fallen. It is gratifying to note that in spite of the adverse circumstances the number of patients seeking advice for the first time has increased by exactly 100, and the number of consultations with old patients by 207. The new patients seen numbered 752, as compared with 652 in 1914; and advice was given to 2770 patients in all, as compared with 2563 in the previous year."

In moving the adoption of the report, Professor Bryce said:—

"With regard to the obstetrical department, you will notice that the number of indoor cases is considerably greater, although the number of outdoor cases has been reduced, and you will also notice that the number of abnormal and serious cases admitted to the hospital is on the increase. It is this fact that makes the hospital one of the greatest fields in the whole country for operative obstetrics, and in this connection one may remark that it has been long the dream of the members of the staff and of the medical committee, for which I speak, to have a proper medical report—a report fully analysing the cases that have occurred during the year. To the medical profession such a report would be of great value, and if only some trust or some individual who has the interest of medical science at heart would give us a hundred or so a year to publish a medical report, the members of the staff would give them something which would be well worth the outlay. It would increase the popularity and forward the interest of the hospital in respect that the fame of the hospital and of its staff would go abroad further than it does now, and many doctors would come from distant parts to see the work going on here. This year a new departure has been made, to which I must allude for a moment. Always in the history of the hospital patients

suffering from the complications of pregnancy have been given advice, and many of them have been taken into the hospital, but this year all this work has been reorganised, and an Antenatal Dispensary has been started. This movement is especially due to the enthusiasm of Professor Munro Kerr and of Dr Jardine. Every great hospital now has an antenatal department, and if you glance your eye over this report at your leisure you will see what the reasons are for having such a department. This department, then, is in being, and it is hoped that as a corollary to this endeavour there will be started shortly a Postnatal Department, a dispensary where the babies born in the wards will be inspected and treated for the various ailments incidental to the nursing period, and the mothers will be taught how to bring up their children."

(4) Dundee Maternity Hospital

The Dundee Maternity Hospital is part of the Royal Infirmary.

Accommodation for Maternity Cases in Maternity Block

Fifteen beds in all for maternity cases.
A ward of 5 beds for unmarried women before confinement.
A baby ward containing 8 cribs and 2 incubators.
A weighing and bathroom.
A ward of 5 beds for nursing mothers.
A special ward of 2 beds for dangerous cases.
A labour ward containing 2 beds.
A sterilising room, bathroom, etc.

In a wing there was a ward containing 6 beds for cases suffering from venereal disease, and also a smaller ward of 2 beds, ward kitchen, and doctor's room. The beds in this wing are disinfected after the patient's discharge. Separate utensils, overalls, etc., are kept for each patient.

In other parts of the infirmary certain beds are available both for maternity and gynecological work.

This is a training school for medical students and for maternity nurses. There are usually 14 pupil nurses in training at one time. They pay a fee of £15, 15s. for four months' training.

The maternity cases register some time before confinement. An attempt is made to obtain a fee of 10s. from both extern and indoor cases. In the maternity department there is a matron, with 2 sisters and 2 staff nurses and the pupil nurses.

There were 279 maternity cases in the hospital during the year ending 15th May 1915—84 primiparæ and 44 multiparæ—total 198 were delivered. There were 176 children born alive and 29 born dead. The maternal mortality was 12 and the infantile mortality 23.

There is a gynecological department consisting of a ward of 18 beds and two side wards of 1 bed each.

(5) Aberdeen Maternity Hospital

Visited 14th June 1916.

This hospital was founded in 1893 by the Managers of the Aberdeen Dispensary, who felt that the work of the lying-in department of the institution would be greatly enhanced by the securing and fitting up of a house in the neighbourhood where lying-in patients, whose homes were too wretched for them to receive proper attention, could be placed under thoroughly trained nurses. Accordingly, a house in Barnett's Close was rented and fitted up as a hospital. In 1900 the hospital was removed to the present premises in Castle Terrace; and in 1904 these were enlarged to their existing condition. The purpose of the hospital is threefold:—(1) To provide special medical aid to lying-in patients of the poorer classes, and to such as can afford to pay, either in the hospital or in their own homes; (2) to train pupil midwives and maternity nurses; (3) to assist medical students of the university to obtain the necessary midwifery experience.

The finances of the hospital consist of rents, grants from public bodies, fees of nurses and students, payments by patients, legacies and subscriptions from the public.

Constitution and Management.—The institution consists of the following members:—The Lord Provost of Aberdeen City; the Principal of Aberdeen University; the Aberdeen City Treasurer; the Professor of Midwifery of Aberdeen University; the President of the Aberdeen Medico-Chirurgical Society.

Life Members.—The Life Managers of Aberdeen Dispensary; the nominees of public bodies giving certain donations or subscriptions; the nominees of individuals, or of the executors of individuals bequeathing certain sums; contributors of £10 or upwards.

MATERNITY PROVISION: THE NURSING MOTHER

For the year ending 31*st December* 1915 the income by donations, legacies, annual subscriptions, patients', nurses', and students' fees was . . . £858 3 2

The expenditure was	1160 15 4
The deficiency was	302 12 2
The deficiency from previous years was	1872 17 0
The total deficiency was	2175 9 2
The capital account was	7379 3 0

Cases treated in the hospital, 240; cases treated in their own homes, 87. The indoor cases have increased by 37; the outdoor cases have decreased by 9.

The work in the districts, which, as in Edinburgh and elsewhere, fell away after the passing of the National Insurance Act, has again increased.

Visiting Medical Staff: Emeritus Professor Stephenson, Professor M'Kerron. *Resident Staff*: A house surgeon; the matron, who holds the Central Midwives Board certificate and has been seven years matron; there are 2 sisters, who must have had three years' training in a General, Children's, or Poor Law Hospital and hold the C.M.B. certificate; a staff nurse, which is usually a promotion post for nurses trained in this hospital; a district midwife, trained in the hospital; domestic staff, 6 maids.

There are two classes of pupils: (1) pupil midwives, who deliver cases according to the rules of the C.M.B.; (2) pupil nurses, who do not deliver, but who may attend cases in the district with students or pupil midwives.

Any pregnant woman is eligible for admission; and some waiting cases may be admitted, either for medical reasons or because of destitution, several months before the confinement. Married women are in one and single women in the other large ward. It is sometimes not possible to separate married and single waiting cases. The fees charged for attendance on outdoor cases is 7s. 6d., and for indoor cases is 10s. No extra charge is made for operative cases. By arrangement the matron is able to obtain the fee direct from some of the insurance societies. The fee is sometimes refunded to very necessitous women. Certain patients in the large ward are screened off, and pay £1, 1s. per week. There is one private ward, for which £2, 2s. per week is charged. These paying patients are sometimes women from abroad, and sometimes unmarried girls from other towns. The matron feels the great need of a ward for waiting patients, separate from the lying-in ward. The hospital is usually nearly full, but there is no waiting list, so that it seems to be meeting the demand made upon it.

System of Booking.—Name, age, address, etc., and family history are recorded. Each one is seen by the sister, or by the staff nurse if sister is off duty. If sister is not satisfied with the expectant mother's condition she refers her to the matron, and a consultation is arranged with Professor M'Kerron. Every primipara is supposed to report weekly; her urine is then examined, and if there is trace of albumin she is admitted to hospital for at least a week. The urine of the multiparous patient is examined only if there is indication of abnormal condition. All patients are encouraged to come in a few days before the confinement. They must remain ten, and usually remain for fourteen, days. Pupils take cases in turn, and the cases are equally divided between medical students and pupils. The district midwife accompanies pupils to all cases, and the resident house surgeon is sent for in cases of difficulty. Students attend cases along with a pupil. Twenty-seven maternity nurses can be trained in one year. In 1915, there were seven pupil midwives, four of whom completed their training and took the C.M.B. certificate. If the mothers attended in the district cannot breast-feed their babies, then a mixture of pasteurised milk is sent in bottles to them, cream being sent separately.

The medical students pay £3, 3s. for general practice, £1, 1s. for vaccination, and £3, 3s. for massage.

The pupil midwives pay —— for their training; whilst the pupil nurses pay ——.

Consultations for expectant mothers were opened in February 1916, and are held once a week. (See page 52.)

Since the maternity hospital charges a fee of only 7s. 6d. for attendance at a birth, and is very keen to obtain material for the purpose of training students, whilst the independent midwife charges 12s. 6d. per case, and desires to increase her clientèle, because of the remuneration, the hospital and the midwives are in competition for cases. It is not, therefore, likely that the midwife will refer either her expectant mothers or her nursing mothers with babies to the clinics held at the maternity hospital.

The cases attended by the hospital staff were:—

1915.

Indoor—married, 109; single, 131.	Normal cases were—indoor, 150.
Outdoor— ,, 72; ,, 15.	,, ,, ,, outdoor, 68.

During 1915 there were admitted to the prematernity ward, of unmarried women—16 for destitution, 9 for medical reasons.

There were 17 waiting cases in hospital, and 18 cases of abnormalities in the expectant mothers.

On the first and second floors are the matron's room, office, and staff rooms. The staff nurse shares a room, and the pupils sleep in cubicles. There is a nurses' bag and cloak-room between first and ground floors. On ground floor there is a consultation room, no waiting-room. There are two wards, well lighted, one for married and one for single girls. One contains 7 beds and 3 cots, and is heated by two open fires; the other 8 beds, and is heated by a radiator. The babies seem to sleep with the mothers. There is a small labour ward of usual type, containing one bed. There are ward kitchens, bath-room, pan-room, etc. If there is an immature baby, a small ward kitchen is reserved for it. There is no incubator. Malnutrition babies are in the wards with the other patients; there is seldom more than one in at a time. In the basement are the staff dining-room, a private ward containing one bed, the resident's bed sitting-room, an isolation room, and the district midwife's bedroom. There are also pan-room, pantries, store-rooms, larders, kitchen, washhouses, coal bunkers, etc. The small garden is used only for the purpose of drying clothes.

(6) The Govan Cottage Nurses' Training Home

is another type of institution. It has provided a large number of nurses trained in maternity work. It was visited by Dr Menzies on 7th June 1916. Her description of it is as follows:—

The Home has been in existence about fourteen years, and during that period 6101 maternity and 3088 general, medical, and surgical cases have been attended. It is a training home in nursing for women from all parts of England and Scotland. These are recommended by the local nursing associations that pay £25 for the nurses' training. The matron stated that this sum did not cover the cost of a nurse's training, that actually the Home received about £20 towards the training of the nurse, since examination, fees, etc., were included in the £25 fee. She estimated that the cost of training a nurse was £42, 10s., and that the loss to the Home was about £11 in respect of each nurse trained. Uniform is given free, as it is quite useless after a year's usage. The fee covers all laundry expenses, maintenance, lectures, and instruction. Last summer the probationers were taken to Garelochhead for two weeks, where their lectures were continued—indoors and out of doors.

There is accommodation for 30 nurses. The nurses in training generally spend eight months in the nursing home and four months in the cottage hospital. Although a probationer has had some previous training in mental or fever cases, she remains in the nursing home for six to eight months, or does a year's work in the district. All nurses without previous training complete a twelve months' course in the Govan Home.

The matron stated that the Home is so well known that there is no lack of cases; that in March 1916 there had been 98 confinements (and 100 babies) attended. The mothers wishing assistance book beforehand. They pay a fee of 10s. In cases where the mothers are entitled to receive insurance benefit, the maternity schedule is filled in and the insurance society pays the nursing home 10s. A fee of 15s. is charged if a doctor's visit is required, and £1, 1s. if there is operative interference (forceps). The nurse attending the mother endeavours to see that the balance of the maternity benefit is spent by the mother on herself. Maternity bags are not given, but clothes and linen sent as presents to the home are distributed.

Twenty-six nurses completed their training in 1914, and thirty-one in 1915. The nurses attend also to general medical cases in the homes; there are about 22 such cases per month. The nurse sees her first cases in hospital, and is taken out with the sisters for three weeks. After she has seen 10 cases the nurse is permitted to assist doctors, but until she has taken her certificate she can never take a case alone. Doctors apply to the Home for nurses to assist with cases.

Cases of complicated labour are taken into hospital if possible.

Patients usually apply for the services of a nurse about one month beforehand. Primiparæ are examined and the urine tested; multiparæ are examined if there is suspicion of abnormality.

During 1915 there were attended—

Doctors' cases, 163; branch cases, 58.
Midwives' cases, 362; „ „ 161.
Maternity ward cases, 104.

Total cases attended from the Home and Branch were 848. Medical cases attended during the year were 172.

The income is derived from training fees, patients' contributions, donations, and annual subscriptions, and for the year ending 31st December 1915 was £2101, 15s. 5d.; and the expenditure for the same period was £1991, 4s. 11d.

The resident staff consists of: Matron, who holds the C.M.B. certificate; 2 sisters, one of whom has a general hospital training, and the other has a general hospital training and a six months' maternity training; 6 certificated teaching midwives, who have received their training in the home; typist; domestic staff—a cook and 2 indoor maids.

The visiting medical officer is paid a fee for each visit to the home. Major operations are not performed in the home; cases requiring operation are sent to the Maternity Hospital.

Accommodation for six indoor cases.

The Home is a two-storey building, with a large garden behind and a small garden in front. The entrance is at the south-east corner of the building.

On the ground floor are the matron's sitting-room; the nurses' district room; the sisters' parlour; a coat- and cloak-room; one labour room, containing 2 labour beds, with a nurse's observation room adjoining; a ward containing 4 beds; a nursery in which babies are bathed and which contains 2 overflow beds; a nurses' recreation room, also used as a lecture room; a committee room; a sitting-room; a ward kitchen; a small hospital kitchen; sickroom, kitchen and dining-room.

On the first floor are a quiet room; 18 nurses' single bedrooms; a staff bathroom; a patients' bathroom, which is also an examination room.

The institution is in excellent order, prettily furnished, comfortable for the nurses, and also for the patients.

The matron stated that there were a great many difficult cases amongst those attended, owing to rachitic pelvic contraction.

4. *Lying-in Provision.*—To a certain extent the maternity hospitals act as lying-in institutions. But this is incidental to their proper function. There are numerous lying-in homes, both private and charitable. But the amount of detail I have been able to obtain is no sufficient indication either of the amount of the accommodation or of the type of service. In one instance, of which details were obtained, a house is used as a resident centre for pupil midwives, who, under the direction of qualified persons, attend midwifery cases. The demand for service has recently induced the institution to establish four beds for cases. It is known that, in the large cities, many such institutions and homes exist; but I can give no estimate of their proportion to the cases requiring attendance. They are as much national as local training-places. They will now all be regulated by the Central Midwives Board for Scotland.

5. *Dispensary Midwifery Attendance.*—It is also common knowledge that nearly all the dispensaries in the large cities provide, some more and some less, attendance on midwifery cases. The dispensaries continue, as they have been for a very long period, training-schools for medical students as well as for midwives. From one Edinburgh dispensary 277 cases were attended in one year; from another some 30. To the extent that such dispensaries can be of

service they will be included in the large maternity and child welfare schemes.

6. *Clinical Laboratory Provision.*—The remarks quoted from Professor Bryce show in what directions the functions of the maternity hospitals are responding to the demands of the time. It is disappointing to find that, for financial reasons, institutions of such importance should not be able to publish either a full medical report of the clinical work or a systematised series of researches from a clinical laboratory. If the provision for maternity is to become worthy of the other public health activities of the great cities, every maternity hospital will regard a yearly medical report of clinical work and research as a normal contribution to the literature of technical medicine. This means more laboratory provision and a special technical staff. But, like other sections of public health organisation, this specialised department needs its own specialised technical accommodation and appliances. It is in hospitals such as these that the material for the technical investigation of difficult problems like prematurity, intra-uterine malnutrition, infantile malnutrition, infantile senescence, and similar problems can be most easily investigated. Capital outlay on the provision of a clinical laboratory at the maternity hospitals would, in my opinion, be a first-class investment.

7. *Variations in Methods of Midwifery Attendance.*—The fact that the methods of midwifery attendance vary so much in character is itself proof that the time has come for a more vigorous attempt at systematisation of services. Practically all the institutions I have described have come into existence partly to satisfy the people's demand for service, partly to provide training-grounds for medical men, midwives, and maternity nurses. They rely for their financial support on contributions, donations, and fees, and for their service on the voluntary work of medical practitioners. The general effect of this double limit has been to restrict the use of the institutions to the necessitous and to keep the number of cases within the limits suitable to the part-time services of the medical officers and to the purposes of medical teaching. In the time to come those institutions will have to meet the same difficulties as the royal infirmaries in the early days of medical inspection of school children: they will

either have to extend their functions to provide for a much greater number of cases, or reconcile themselves to the establishment of public clinics and hospitals. To take the city of Edinburgh as an example, I cannot think that out of a city population of at least 408,000 (including Leith), and a considerable surrounding county population, there should be only some 1800 cases (outdoor and indoor) handled at the Maternity Hospital during a year. The only inference I can make is that the uses of the institution are restricted by the two influences suggested, namely, inelasticity of funds and suitability for teaching. On the other hand, the fact that this maternity hospital contains so large a professional staff shows, *first*, that its work is of the highest professional value and necessity; *second*, that the cases it attracts tend to be too few for the purposes of a medical school. In the early days of the Insurance Act all the maternity hospitals suffered for a time; but recently I have not heard the complaints repeated, and under the new agreements the ground for complaint will already have been removed.

Further points in organisation are given in the account of the schemes for the cities of Edinburgh, Glasgow, Dundee, and Aberdeen. Under those schemes the maternity hospitals, lying-in institutions, dispensaries, and maternity centres become living elements in the municipal system of maternity and child welfare administration.

8. *Other Provision for Maternity.*—Apart from the special training of doctors in midwifery as part of the medical curriculum, there are two great systems that affect the whole provision for maternity: *first*, the registration, training, and supervision of midwives in terms of the Midwives (Scotland) Act, 1915; *second*, maternity benefit under the National Insurance Act, 1911, and the National Insurance Act, 1913.

The substance of the Midwives Act is given in Chapter XLIX. Here all it is necessary to say is that at the close of the roll on 31st May 1917 the number of midwives registered in Scotland was 2026.

But the list includes only those registered as midwives. It does not necessarily include all those nurses that hold midwifery certificates of training or are otherwise trained as maternity nurses, nor does the registration mean that all those registered are of equal qualification. On the contrary, by a special provision, persons that have been a

year in practice as midwives are, if otherwise satisfactory, entitled to registration. But the Central Midwives Board have power to lay down the conditions of training and to conduct examinations. As time goes on, the general training will reach a higher level of efficiency.

Maternity benefit, as the largest single national provision for maternity, I discuss in a special chapter.

9. *Conclusion.*—From our survey of maternity institutions and the figures concerning maternity, the conclusion that most readily suggests itself is that our existing institutional accommodation is inadequate.

CHAPTER IV

MATERNITY BENEFIT: ITS WORKING AND EFFECTS

1. *Sources of Information.* — Maternity benefit is the largest national provision for maternity. As mere machinery, probably the Poor Law is as large, but that is limited to the destitute and disabled. The data for determining the relative numbers of mothers dealt with under the Poor Law and the numbers dealt with under the Insurance Act are not easily accessible; but from a general acquaintance with the facts I should estimate that the numbers treated under the maternity benefit provisions are very much greater than the numbers treated under the Poor Law. It may, therefore, be properly said that maternity benefit is the largest single national provision.

But maternity benefit is limited to the wives of insured persons or to mothers that are themselves insured persons. Thousands of mothers come into neither class. By the new provisions of the Notification of Births (Extension) Act, 1915, all expectant mothers and nursing mothers come under whatever schemes are finally approved. As, however, this Act is adoptive, not obligatory, it has not yet borne full fruit in the country. The schemes under it are not fully developed, and, though ultimately schemes will be universally adopted, the maternity benefit sections of the Insurance Act still, for the moment, hold the field.

It is, therefore, of great practical importance to investigate how these provisions operate. In 1911 no part of the Insurance Bill was more warmly discussed or more warmly welcomed. It was felt that in this provision the nation had taken a new step. There were divided opinions about providing a money payment for maternity, about the superiority of the proposal to provide only service, about the proper authority to administer the provisions, and about many other derivative points. But the system then established has now been in operation for some six years. Its weaknesses and its strength have been discovered; its effects on the country as a whole can be generally estimated.

The system of maternity benefit in the form of money payments struck me as so important that, in order to obtain direct and reliable information, I arranged an interview last year with the Scottish Insurance Commissioners. The Secretary and the Acting Chief Inspector, the late Dr Stanley Turner, were present, and I explained generally the kind of information I thought most valuable for the present inquiry. It was arranged that Dr Stanley Turner should organise a special investigation throughout the principal localities; but, unfortunately, he died before he was able either fully to organise the special investigation or to collate the material then in existence. I can only record my extreme personal regret that the Carnegie United Kingdom Trust, and, through them, the general public of Scotland, cannot now have that brilliant young economist's opinion on an administrative system of such far-reaching social importance. But Mr Highton, who took up Dr Turner's work, has collected for me a large number of official reports, which deal with the working of maternity benefit mainly in the years 1913 and 1914. These are administrative reports by officers of the Insurance Commission, and contain a vast amount of confidential detail. Those furnished to me amount in the total to some two hundred foolscap typewritten pages of carefully recorded details, which reflect the working of the maternity benefit system in the chief groups of the mainland population. But here my purpose is general, not administrative, and in what follows I endeavour to show the effect of maternity benefit in improving the organisation of maternity service, in showing what types of service are most in request, and within what limits the system operates, and whether the conception of money payments for maternity benefit can, with profit, be extended beyond the limit of insured persons.

The reports, as I have said, concern mainly the years 1913 and 1914; but since then, the Midwives (Scotland) Act has come into operation. Formally, this fact converts some of the complaints into ancient history; but really, as the Midwives Act cannot for some years affect seriously the number of persons engaged in midwifery practice, the facts here recorded continue to be on the whole relevant.

Let it further be said, as a preliminary, that the reports show, in the abundance of their concrete details, how closely the investigators have interpreted their instructions, and how far-reaching are

the social effects of the maternity system now growing up among insured persons. That the system cannot remain indifferent to the new powers of the Local Authorities goes without saying. Indeed, the whole provision for mothers and children is in a state of rapid flux. All I can aim at here is to indicate the lines of drift.

2. *The General Effect of Maternity Benefit.*—Perhaps the shortest way to indicate the general effect of maternity benefit is to show how the maternity hospitals have been affected. Mr Jeffrey, Secretary to the National Insurance Commission, has furnished me with a list of the insurance committees and approved societies that have entered into maternity benefit agreements with the Edinburgh Royal Maternity and Simpson Memorial Hospital, the Glasgow Royal Maternity and Women's Hospital, the Dundee Royal Infirmary Maternity Department, and the Aberdeen Maternity Hospital. The mere numbers of the societies show, *first*, how great the need was for some organisation of the many administrative units, and, *second*, in what directions the organisation is taking place.

Two Burgh Committees—the Edinburgh Insurance Committee and the Leith Insurance Committee—have entered into maternity benefit agreements with the Edinburgh Royal Maternity Hospital. Up to 1st May 1916 twenty-five approved societies had also entered into similar agreements. These societies include all the principal societies operating in Edinburgh and Leith. Twenty-three other approved societies, though not formally entering into agreements, are in the habit of paying claims of the hospital in respect of members that have been attended.

With the Glasgow Royal Maternity Hospital, twenty-four approved societies have entered into agreement. Nearly eighty other approved societies, though not entering into agreement, send cases and pay claims. The methods of paying claims vary considerably. In one society most of the claims are paid to the hospital, the agents endeavouring to carry out the wishes of their members in the matter. In another the sums agreed upon by the members are deducted and retained at the district offices of the society, and collected from time to time by the hospital. Of another society the members take advantage of the hospital; but the local office refuses to recognise the hospital's claims, although the hospital receives payment from the society's agent, except when, as sometimes occurs, the agent has not been advised at the head office that treatment has been given at the maternity hospital. In these circumstances the full amount is paid to the member, and the hospital has great difficulty in recovering. In another case the society promptly pays sums agreed upon between their members and the hospital. In another the secretary pays members in full, but advises them to call at the hospital to fulfil their agreement; the majority of the claims are thus paid. In another case a proportion of the hospital

claims are also paid. There are some other varieties ; but these are enough to show, *first*, the business complexity of this immensely detailed type of administration ; and, *second*, the uncertainty that may hang over an individual patient. For instance, one large society makes no payment to the hospital, which experiences the greatest difficulty in recovering payments from members. . In another case the society reserves the right to deal with cases on their merits ; but, so far, have paid the sums agreed upon between their members and the hospital. On the other hand, in several large societies, the hospital collects the claims.

In Dundee, though no formal agreements with approved societies have been made, there is an understanding that a uniform fee of ten shillings is to be retained and paid over to the hospital. The docquet requesting retention of the fee is appended to the certificate of confinement, except in cases where special arrangements are made with the members at the time of granting the certificate. The larger number of societies, it is stated, appreciate the work done by the hospital, and are quite willing to retain and pay over the fee. The Dundee societies concerned number some sixty-six. There seems to have been a good deal of difficulty in gaining the assent of the societies to retain and hand over the ten-shilling fee, but the majority have agreed. In a minority the fees have been paid by the individual members after the situation had been explained to them.

In Aberdeen ten approved societies have entered into an agreement with the maternity hospital. Fifteen societies, though not under agreement, pay the contributions.

These facts are as given up to 1st May 1916.

The administration of the maternity benefit has thus had the effect of revealing and organising the demand for increased institutional treatment, and outdoor maternity attendance when indoor treatment is not required. This fact confirms the conclusion come to on general grounds, that the present institutional provision for maternity is grossly inadequate.

3. *What is Maternity Benefit?*—That the administration of maternity benefit should result in an increased demand for institutional treatment is somewhat of a paradox. But this development flows naturally from the nature of maternity benefit. What is maternity benefit ? Maternity benefit is a payment of thirty shillings in respect of a confinement. The word confinement means "labour resulting in the issue of a living child, or labour after twenty-eight weeks of pregnancy, resulting in the issue of a child whether alive or dead." (*Handbook for use of Insurance Committees in Scotland*, paragraph 407.) This payment is made to one of the following four classes of person :—*First*, to a non-insured married mother whose husband is an insured person ; *second*, to an insured married mother whose husband is also an insured person ; *third*, to an insured unmarried mother ; *fourth*, where the child is posthumous, to a married

mother whose husband was an insured person. There are certain qualifications that we need not here discuss. On confinement each woman is entitled to thirty shillings in cash or otherwise, as the insurance societies or, in certain cases, the insurance committee may determine. In the case of three persons—namely, the non-insured married mother, the widow, and the insured unmarried mother—only one sum of thirty shillings can be paid. In the case of the insured married mother, two sums of thirty shillings are paid. The principle followed is that, where a woman is herself an insured person, she is entitled to maternity benefit on her own account; where she is not an insured person, but is the wife of an insured person, she is entitled to maternity benefit on her husband's account; where she is both herself insured and has an insured husband, she is entitled to double benefit. In all cases the maternity benefit is to be administered in the interests of the mother and child in cash or otherwise by the approved societies of which the husband and, in the case of double benefit, the wife is a member. To the double maternity benefit of the insured married woman a special condition is attached: the insurance committee must make rules requiring the woman to abstain from remunerative work during a period of four weeks after her confinement. In all cases, whether of single or double benefit, it is for the mother to decide whether she shall be attended by a duly qualified medical practitioner or by a fully certified midwife, and she shall have free choice in the selection of such practitioner or midwife.

But there are certain modifying circumstances. If the woman is in a poorhouse, or a charity hospital, or a rate-supported hospital, or an asylum, or a convalescent home, or an infirmary, or a sanatorium, the maternity benefit is either not payable or is payable subject to modifications. If the mother has dependants, the thirty shillings must be applied in whole or in part for the relief of the dependants in the manner thought fit by the insurance committee, after consulting with the mother wherever possible. If, however, as in the case of the insured married woman, an additional maternity benefit as well as the primary benefit is payable, the wife's dependants are provided for out of this additional maternity benefit, not out of the primary benefit. If any of the benefit remains over after the dependants are provided for, the remainder may be required to provide surgical appliances. If it is not so expended, it is paid in cash

to the woman when she leaves the institution either in a lump sum or in instalments, as the committee thinks fit. There is a second modifying circumstance: part of the thirty shillings may be used in providing a midwife or a doctor as part of the benefit. In that case the remainder is paid in cash.

The substance of these provisions is this: the thirty shillings may be all paid in cash, or part of it may be used to provide a doctor or a midwife chosen by the mother, or part of it may be contributed to a hospital in return for the mother's treatment. It is under the third of these possibilities that the arrangements have been made by the societies with the maternity hospitals.

4. *Elements of this Maternity System.*—From these provisions it is clear that, from the beginning, maternity benefit was intended to make it easier for a mother to provide for herself such skilled assistance at her confinement as she wished. But her choice was limited by the societies' power to pay "in cash or otherwise." In the course of administration maternity benefit has included payments both "in cash and otherwise." But a common result of the societies' power has been a growing provision of institutional accommodation. Experience has shown that certain conditions of personal health, or housing, or poverty, are incompatible with good administration of maternity benefit at home. This is why, out of an apparently simple money payment, with a limited freedom in its use, has arisen a maternity system that is steadily and rapidly becoming more and more elaborate as time reveals the new needs.

But, apart from the wide power included under "cash or otherwise," it is lawful for an approved society or an insurance committee to grant such subscriptions or donations as it may think fit to hospitals, dispensaries, and other charitable institutions. This, no doubt, covers subscriptions or donations to a maternity hospital; but the amounts paid under the agreements referred to above are a portion of the maternity benefit due in respect of each case accommodated.

5. *General Survey of Maternity Benefit Administration.*—The following sketch of the administration of maternity benefit rests on the official reports furnished by the Scottish Insurance Commissioners, and on one or two reports by independent officers. As the intention

is merely to show the general working of this national system, I omit all identifiable details, but I include enough geographical distinctions to prevent the notes from being too vague.

(1) *Glasgow.*—The conclusions are based on interviews with five sick visitors of approved societies, four doctors in the poorer areas (such as Cowcaddens, Bridgeton, Gorbals, and Oatlands), twelve midwives in the same district, representatives of a Nurses' Training Home, and an examination of the records of two large approved societies. To show what proportion of cases are attended by doctors, midwives, and maternity hospitals, 262 maternity cases taken at random from the claims in those two societies were allocated as follows :—Doctors, 107 ; certified midwives, 102 ; midwives with qualifications not stated, 35 ; maternity hospital, 18. The figures, according to the reporter, bear out the statement made by the majority of the doctors, that doctors are engaged only by the better class of insured persons. This report was written in 1916, when, on account of stresses due to the war, each doctor has to take the practice of three or four others. Their tendency is to recommend an efficient midwife.

The midwives interviewed had all some qualification ; but among the recently qualified there is a complaint that the unqualified are still preferred by a large majority of patients. This has been found also in some other places. The view taken by midwives and doctors generally is that the primary function of maternity benefit is to pay for skilled attendance. Both doctors and midwives apparently have now no difficulty in obtaining their fees. Frequently, besides the 12s. 6d. or £1, 1s. paid to midwife or doctor, a friend or neighbour receives 10s. for rendering domestic services. This leaves little of the benefit for additional comforts for mother and child. It is stated that the employment of neighbours for this work is not very satisfactory. The neighbours cannot afford too much interruption of their own domestic work, and the result is that the maternity patient may have to resume her own work before the proper time.

Comforts for the mother obtained from part of the benefit usually take the form of extra food. Clothing is not generally bought ; in many instances the money is used to procure a pair of shoes, which is a sound recommendation of the more efficient nurses to minimise dangers from damp feet. Frequently some money is spent on a white shawl for the child. This apparent extravagance has the effect of inducing the mother " to keep the other little garments sweet and clean in harmony." Among the very poor " little provision is made for the child's advent, and the benefit is sometimes desperately awaited to buy the necessary garments."

As to the misuse of the benefit, the reporter was informed that there was hardly any evidence of abuse or misspending it. Before the provisions of the 1913 Act came into force, cases of misspending on drink by the husband were known ; but direct evidence of this hardly ever occurs now. The effect of the second maternity benefit is to promote the tendency to cease work for a period even longer than the four weeks prescribed.

In a paper on the " Working of the Maternity Benefit under the National Insurance Act," prepared by Dr Barbara Sutherland, M.A., Assistant to the

Medical Officer of Health, Glasgow, and submitted by Dr Chalmers at the English-speaking Conference on Infant Mortality, 1913, certain points in the early administration of maternity benefit are discussed. One immediate effect was a decrease of the births notified by the maternity hospitals, and an increase in notifications by doctors in private practice and by midwives. This tendency ought now to be corrected under the new agreements. In Edinburgh and elsewhere there was a similar experience. But the drift away from the institutions is now seen even by the people themselves to have been an entire mistake. In a place like Glasgow, where the housing is so defective, the use of the institutions ought steadily to increase, not to diminish.

Dr Sutherland investigated 2552 cases of birth, of which 2145 received maternity benefit. For various reasons, 56 cases had failed to receive maternity benefit; but such administrative accidents appear now to be less common. Some were in arrears with payment; others had not accumulated sufficient payments; others had not claimed the benefit; others had lost the card or book; in other cases no information could be obtained. This type of difficulty must occur in every large scheme of administration. Dr Sutherland, writing in 1913, says: "Abuse of the benefit money is unhappily very common. Cases are numerous in which the husband receives the entire 30s. and spends it in liquor, while in many cases the receipt of benefit has resulted in one or two weeks of unemployment for the husband. Sometimes, in anticipation of the benefit, the man stops work and has been known to refuse work when offered it.

"Some men have devised an ingenious method of evading the accusation of not giving the benefit money to the mother: they hand over the 30s. when it is received, but deduct that amount from the usual money given for household expenses. Mothers have sometimes said that they were better cared for at previous confinements when there was no maternity benefit, as the receiving of 30s. by the husband is often sufficient to disturb the peace of an entire family.

"In some instances the husband has used the 30s. in payment of debts incurred in his betting transactions. One man spent the maternity benefit in the purchase of a gramophone. Still worse are the cases where the wife joins with the husband in squandering the sum on drink, for the effect on the household is then disastrous. A few such cases have been discovered by us, where young children have been left at home in a state of filth and misery, while the parents, having the infant usually with them, pursue their course of enjoyment outside. At least two of the cases were so bad that they were reported to the Society for the Prevention of Cruelty to Children, so that the parents might be cautioned and prosecuted if necessary. They are still under observation by the officers of that society.

"Thus if a woman who is insured, or is the wife of an insured man, reaches the twenty-ninth week of pregnancy, she is, under ordinary circumstances, certain to receive benefit some time after confinement. If, however, benefit could be received some time after the twenty-eighth week were passed and before the birth, it is evident that it would be much easier to make 'adequate provision' for the maintenance and care of the woman during her confinement."

There was some complaint as to the delay in payment of the benefit.

These observations are based on the facts of four years ago. But in March and April of this year, under Dr Chalmers' direction, Dr Sutherland made some further inquiry into the working of maternity benefit. Dr Chalmers writes: "Dr Sutherland tells me this morning (28th March 1917) that the nurses here are definitely under the impression that there is little abuse of the maternity benefit now, save that there is much greater delay in paying it than before the war. She adds that very often the remainder, after deduction of the midwife's fee of 15s. 6d., is spent on the payment of a woman to do some work in the house, and part also in many cases is spent on infant clothing. This is, of course, all to the good, but it leaves wholly untouched the question as to whether adequate service would not be better than the payment of a money sum—service, I mean, in the sense of including such advice as might be given to prospective mothers with symptoms which might in time lead on to eclampsia. This, I think, is the great defect of the present system.

"It would certainly tend to increase smoothness in the working of the benefit if the approved societies adopted a standard fee, and paid it direct to the midwives."

In a still later inquiry, Dr Sutherland found that the nurses were satisfied that there are not many instances now of the misuse of the maternity benefit. In a random list of eight cases there was only one instance given of misuse, and in this case the 30s. was used to pay debts and the midwife had not received her fee. It may, therefore, be taken that the maternity benefit is, on the whole, devoted to the purpose for which it was intended, namely, the provision of better technical service at the mother's confinement.

(2) *Edinburgh.*—In the Edinburgh notes one important point is recorded: there is an increased tendency to retain the services of doctors even where a midwife does the work, because, otherwise, there might be a danger of adequate skill not being available to the patient. This spontaneous result of increased experience entirely justifies the special provision in the Midwives Act, whereby the midwife, in the special emergencies as defined by the Central Midwives Board, is bound to summon the assistance of a doctor. That under the maternity benefit system a doctor should be retained proves that the patients themselves realise the value of having skilled attendance immediately available. Incidentally, the amount of the maternity benefit that can be applied to other purposes is diminished.

Previous to the Act, Queen's nurses were frequently sent for to attend to patients after the employment of "handywomen." In 1914 this practice had already almost ceased, the improvement being attributed to the better attendance patients were receiving under the Insurance Act. In some cases no provision whatever is made, but the Maternity Hospital is informed immediately the woman takes ill, and "two nurses are at the house within twenty minutes or so." Apparently the effect of the Act has been to discourage the work of the handywomen. The Midwives Act will now secure an increasing standardisation of the work of all midwives. But it is obvious from these and the other notes that the work required of the local authorities to secure a high level of technical attention in midwifery will be very great.

(3) *South-Eastern Districts.*—From the notes on Bo'ness, Tranent, Haddington, Dalkeith, Bonnyrigg, Rosewell, Prestonpans, Cockenzie, Port Seton, Morrison's Haven, and Musselburgh I select a few items. The report on this highly industrialised group of towns rests on interviews with twenty-four doctors, eleven Queen's nurses, sixteen maternity nurses, fifty-five handywomen, nineteen society officials, and eleven others. The record is, therefore, fairly representative of the kind of provision made in those places for maternity. In Bo'ness the principal industries are mining, woodyards, potteries, foundries, and distilleries. In Tranent there is a large mining population, small agricultural population, tradesmen, and shop assistants. There are few married women workers, and the single women that get married drop out of insurance. In Haddington the majority of insured persons are agricultural workers, tradesmen, and shop assistants. In Dalkeith employments of insured presons are mining, brush-making, carpet-weaving, tradesmen, and shop assistants. In Bonnyrigg and Rosewell the principal employments are mining, paper manufacture, and carpet-making. In Prestonpans, Cockenzie, Port Seton, and Morrison's Haven the population is largely engaged in agriculture and fishing. In Musselburgh the largest proportion of the community is engaged in mining, the remainder in paper-making, net-making, and wire-working. These classifications are enough to show that the area is a sample area of industrial Scotland.

In one locality the whole of the cases are in the hands of uncertificated women, some of whom are "quite satisfactory." Probably most of these will now be on the register of midwives. Out of the 30s. a large number of cases in this district get about 9s. in cash. "This increases the popularity of the benefit." In another of the localities many handywomen have stopped going out since the maternity benefit became payable, as they were "under the impression that they were not allowed to go out now." The great mass of the maternity nurses and uncertificated women expressed the opinion that it was a great pleasure to do their work now, as "they were sure of their fees." There seems to have been a good deal of discussion as to the proper fees for doctors and midwives.

In another locality the local maternity nurse said that she had never in her experience known a case where the money was misspent. Others in the same locality on the whole confirm this statement. To speak generally, "the maternity benefit has been an immense boon in this district." In another of the districts the record is much the same. Here there are a number of married women workers in the district and the double benefit is payable. The doctors consulted said that they had rarely, if at all, known a case where the benefit had been misspent.

In another locality a society official highly approves of the money being paid to the woman, not to the husband. This was in 1914, but in the *Handbook* (Paragraph 411) it is laid down that: "Maternity benefit is in all cases the mother's benefit, whether payable in respect of her husband's or her own insurance, and the committee must administer it in the interest of the mother and child in cash or otherwise as they think fit. If the benefit is to be paid to the husband, the wife's authority for making the payment to him must be obtained before the certificate of payment is sent to the Commissioners."

In another of the localities it was said that a case of puerperal fever is practically unknown. People are encouraged to employ the nurses. "Maternity benefit is well spent and does a great deal of good." These views of the doctors were confirmed by the local nurses. Two of them remarked that they had noticed in the homes many little additions to the comfort preparatory to the birth, which formerly people in these circumstances could not afford. None of them had experience of any case where the money was not used for the purpose for which it was intended.

Of the other localities in the area much the same may be said. The principal difficulty is the fees charged by the doctors and midwives. But, on the whole, the maternity service has been materially improved. In other words, although in none of these areas can the effect of these changes be immediately reflected in reduced death-rates, the whole conditions of attendance increase the chances of life for the child and of better health for the mother. Nothing is said as to the use of institutions. At the date (1914) probably this need had not so imperiously asserted itself as it does now.

(4) *Dundee.*—There is an elaborate report on the whole position as at date March 1914. As stated above, special arrangements are made with the Dundee Royal Infirmary maternity wards, for the use of which 10s. per case is payable. A large number of handywomen were at that date in practice as midwives. At the present date many of these will probably have ceased practice; others are probably on the midwives' register of midwives. As details are given for Dundee in other connections, it is not necessary to summarise the whole report.

It appears to be a common practice among insured persons to run up accounts at shops, allow the rent to fall into arrears, and even borrow money on the strength of receiving maternity benefit in the near future. At the restaurants for mothers a charge is made for insured persons, most of whom are able and willing to pay for their dinners. The condition attached to the second maternity benefit seems to have acted as a deterrent to dining at the restaurants. The money seems to be all required to enable the mother to fulfil the condition of "four weeks' unremunerative employment." The rest, however, may be a greater advantage than the cheap food. But this is a matter that deserves very careful inquiry.

There is some evidence to show that it is difficult to deter the women from going back to work for four weeks after confinement, in spite of the

provisions of the Factory Act and the undertaking that they are obliged to give to their society. On the other hand, the same witness found that the maternity benefit had been a very real benefit to women; that they were able to remain away from their work for the four weeks after confinement with much more comfort and with much greater peace of mind than in former years. "Over and over again she has been told by the women themselves that they now get much better food after their confinement, and that they are thus more able to nurse their infants." One insurance superintendent considered that maternity benefit had been "a very great blessing to mother and child." One of his reasons was that his company had paid "far fewer infantile death claims since maternity benefit came into operation." He thought that many infants had now a better start in life than in former years. It would be interesting to have the numbers on which this somewhat buoyant statement was made. But, so far as it goes, infant insurance is a valuable enough test in many industrial communities. In one or two instances that came under my own observation many years ago, I had the feeling that the insurance of very young infants tended to encourage indifference to the summoning of a doctor. That this is a danger, no one familiar with certain types of population can doubt; but whether the danger is widespread I am unable to say. It is, however, worthy of some careful research.

One midwife who, in a single year, attended 310 cases found that "in many instances the women make no provision of clothes for the infant now, as they buy the garments afterwards out of the maternity benefit."

A good many details are given as to the methods followed by the midwives, qualified and unqualified. Some cases are given of how the mothers spend the money. It is not possible to produce all the details; but some of them are very striking. One woman had suffered from anæmia and had not been able to get nourishing food prior to her confinement. Maternity benefit was paid on the day the child was born, and she was enabled by it to obtain sufficient food. In another case a millworker with her first baby was attended by a nurse from the maternity hospital, and paid 10s. to the hospital; 2s. 6d. was expended on the baby's christening. She found the money a great help, as "without it she could not have stayed at home after her confinement with any degree of comfort." In another case a mother of seven children (five living) was attended by a nurse from the maternity hospital. "She lived in one room, which is fairly clean. The baby did not seem to be thriving, which is hardly surprising with seven persons living in one room." In another case a mother of eleven children (five living) paid 10s. to the maternity hospital and "said vaguely that the money 'just went.'" The baby at the time of visit was over five weeks old and had not been christened, and, therefore, not taken out of doors, as they had not the 2s. 6d. to pay for the christening. "This point is specially noted, as it was the only case that I found where a baby who had attained such an age had not been christened."

In another case a mother of five children (all living), the oldest six years old, found the money a "great help." They lived in a two-roomed house, which was clean and airy and well furnished. The wife's mother had stayed for a fortnight. This, no doubt, saved the payment for the assistance of a neighbour.

In another case the husband had been out of work for several weeks, and the mother had not been able to work for three months before confinement. She was attended by a nurse from the maternity hospital, and "was very pleased that she had been able to buy a gown for the baby out of the money." She said that the 7s. 6d. a week kept the house going until she could return to work. In another case a mother of five children, three alive, had, for some technical reason, been suspended from benefit before her confinement. The family lived in one room. She had suffered from hæmorrhage and threatened miscarriage. She was seriously ill all the time and was very poor. She worried so much about the loss of benefit that she gave birth to twins prematurely, and both infants died. It was alleged that the worry aggravated her condition and was an element in reducing her chances of a satisfactory confinement. The double benefit ultimately paid to her was expended as follows: doctor, £1, 1s.; outstanding doctor's account, 4s. 6d.; paid

to woman to look after house for ten days, 10s.; funeral of twins, 15s.; food and household expense, 9s. 6d.

It would be difficult to get a better illustration of the social facts that have to be taken into account in estimating the amount of a sufficient "maternity benefit," or in deciding whether a house like this is a fit place for a child to be born in.

In another case the mother spent the money in redeeming the bedstead from pawn, which cost 8s., and a mattress, which cost 3s. She also paid the grocer and a week's rent, 2s. 4d. "The bedstead in question was the only piece of furniture in the room. There were a few dishes standing on the sink, otherwise the room was empty. She admitted that the baby had been born on the floor." There were disputes because the society had paid the benefit "in kind," and the mother thought she could have "done better" with the amount spent. But the clothes provided were pawned in turn. "The strangest point is that the baby is quite a fine little specimen and fairly clean." The mother "seemed to be both fond and proud of the baby."

This case indicates that the problems of birth are too complex to be completely solved by the method of a money payment or even of a payment "in kind," however beneficent this may be in helping the poverty of the moment.

In another case a mother of four illegitimate children had been attended by the maternity hospital nurse, paid the week's rent out of the benefit and spent the rest on food. "The baby, whose eyes were discharging badly, had only on a flannel bandage and filthy cotton gown." Like the last case, this shows that the payment of money at the moment, however beneficent, does not cover all the elements of the problem and "works" only when the conditions are such that just money and nothing else is wanted. The money is no substitute for service.

It is cases like this that show how necessary the arrangements with the institutions are. But for some such arrangements, women like these would suffer and their children die in much greater numbers than even at present. The spread of disease, incidentally, is only an element in the case.

In another case the mother, a spinner, had five children, all alive. Both she and her husband were out of employment for some time before the confinement—the husband on account of a strike, the wife on account of her condition. "The baby was born on a Saturday night. On the Monday their last copper had been spent, and on the Tuesday morning there was no food at all in the house. She was very ill, with a temperature of 103° F. She was advised to enter the maternity hospital, but was so anxious about her husband and children that she refused to go." Later, on the Tuesday forenoon, she received the benefit. "She does not know how they would all have lived without the maternity benefit." The woman "began to recover whenever the money was paid. Obviously the relief of her anxiety would be a great help towards recovery besides the food." Three weeks later the baby "looked quite well." The husband had got a situation; the baby was to be christened, and they "had invited the godparents to tea."

In another case the mother lived in a one-room house, totally dark, as the window was close to a blank wall. Ten shillings was paid to the maternity hospital for the confinement; the rest was spent in a gown and shawl for the baby and in food.

In another case a married sister was "staying away from her work at the mill in order to look after the household."

There are some other cases that illustrate important points, but space forbids further quotation or summary. These cases, like many others from Dundee, show that the problems of maternity and infancy are problems of immense social difficulty. But they also show that, to the extent that it can operate fairly, the maternity benefit is a real benefit, and helps the families materially at critical moments. In none of the cases do I find any suggestion that application was made to the Poor Law authorities. In some of them, though the poverty was manifest, the application would have been refused on technical grounds; for in every case the husband, whether in or out of work, was able-bodied, and the wife, as his dependant, would therefore not have been entitled to medical relief. The grant of relief under the Poor Law hangs on two things—destitution and disablement of the qualified recipient of relief, who in each of these cases would have been the husband. Doubtless, there are many cases where, even when maternity benefit is in prospect

or paid, the person might still be qualified for Poor Law relief; but this was not true of any of those here discussed.

The Dundee facts are a peculiarly good illustration of the working of maternity benefit. For in Dundee the problems of maternity reach their point of greatest acuteness and difficulty. As the facts quoted in the chapter on employment and maternity show, the relation of employment to the whole state of mother and child is most marked in Dundee, where the proportion of married women workers is higher than anywhere else in Scotland. So long as mothers have to go through their period of expectancy under the stress of the industrial daily time-table, the mother and the infant will necessarily suffer. It is not that employment of some sort is of necessity detrimental to an expectant mother; it is rather that the necessity of working to time forbids the casual rest that every expectant mother from day to day needs. To the extent that the employment keeps up a state of wholesome physiological tension, the results may not differ from the results of any other form of systematic exercise. But the work that is unremitting duty is one form of exercise; the leisured occupation that is within the mother's own control is another. There can be no question that the voluntary occupation leaves mother and child a better chance of life and health than the time-stressed work of the mill. The extreme contrast is shown in the Hebrides, where the labour of the women, though it is far from light, can be taken up or laid down at will. This makes all the difference.

(5) *Inverness.*—The notes on the town of Inverness furnish some interesting detail. One result of the inquiry was that, "while it is very desirable to have skilled attendance and nursing, it would also be a great boon to have a small share of the benefit expended for the nourishment of the mother and child." Further, the women "were always anxious to have a doctor engaged, as it gave them more confidence, even if he did not happen to be there at the actual confinement." To this I am able to add a short statement by Miss Graham, who, as health visitor and assistant inspector of poor, has had altogether exceptional opportunities of coming into relation with all classes of the community. Of maternity benefit she says:—

> "The maternity benefit has been of undoubted help to the mothers and infants. Even in cases where this actual money has not been used for its original purpose—to pay for attendance at confinement—it has been of the greatest use in helping the anxious mother to pay for a most pressing need, thus relieving her of mental strain and helping her towards a speedy recovery. In the large majority of cases, to my knowledge these factors have encouraged the mother to face life's battle afresh, and the doctor or midwife has not suffered through lack of payment.
>
> "Delayed payment of benefit has, however, caused much worry and anxiety to the mother, as well as preventing her from having the use of the money when most she needed it. At present there is a case of a woman whose husband has been in the army for eighteen months. The form for maternity benefit was signed by her doctor the day after the birth of the infant. Both form and insurance book were taken by the insurance agent, who explained that he had to send them to London before payment could be made. The child was seventeen days old before the mother got the money.
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> "Another case of great poverty was one where the doctor's charge was to be £1, 1s. and a relation was to be in attendance. That mother had to wait eight days for payment, and in that time she was dependent on charity.
>
> "In a few instances we have found married women take on extra regular work—such as office cleaning—in order that they may have in addition to the weekly wage (which often is very small) the extra maternity benefit. These are not at all cases to whom any misuse of the money could be attributed.

"Only in three cases have I known the husbands to be drunk and disorderly during the first week of confinement, and on investigation I learned that it was not actually the maternity benefit but the weekly wage that had been spent. In one of those cases the husband was so annoyed that he had been seen in this hopeless condition and in such circumstances, that when the next child was born he, in a spirit of bravado, declared that no visitor would have the *pleasure* of seeing him drunk—and no one did; for he remained sober!"

(6) *Northern District.*—From an official survey of the northern district it was found that "the amount of adverse information is very small, and is practically nil as regards profligate application of the money. I may add that, judging from my own knowledge of the general character of the people, and as might be expected from any district that is predominantly rural, cases of abuse of maternity benefit ought to be very few." It is added: "The services of the handywoman, who ordinarily remains from six to seven weeks in the home, is, in many cases, all that the wife of the shepherd or gamekeeper living far or separated by sea from a medical centre, and particularly in winter time, can hope for. In these circumstances the practice is likely to continue until certificated nursing service is provided through the agency of the Medical Service Board or otherwise. . . . It is most difficult to ascertain the number of these women, partly because many of them who were at one time employed regularly, now, for personal or other reasons, take on cases only in an emergency." This was written in 1914. The schemes of the Highlands and Islands Medical Service Board are detailed in a separate section. They will ultimately act in the direction here foreshadowed. Meanwhile, the operation of the Midwives Act will have a selective effect among all those practising as midwives.

(7) *Western and South-Western Districts.*—The following notes show how maternity benefit works in the west and south-west.

"Careful inquiry was made into the application of maternity benefit in the western and south-western areas in twelve burghs and one rural area.

"*Sources.*—The sources of information were the Medical Officers of Health, general practitioners, nursing associations, district and Queen's nurses, certificated midwives, handywomen, and recipients of maternity benefit.

"*Expenditure of Benefit.*—It was found that, in every case, the first claim made on the benefit was for attendance at the confinement. The balance was spent on extra food for the mother and child, clothing, rent, and household debts.

"The number of cases where the money was misspent, *e.g.* on drink, were so few proportionately to the number of claims paid, as to warrant their being left out of consideration.

"*Attendance at Confinement.*—The inquiry accordingly turned on the kind of treatment for which the patient was paying, and to an examination of the services available in each particular area, and to the allegation that the untrained handywoman had increased her practice since the Act came into force.

"*Increase in Fees.*—Fees have increased for every class. The doctor's fee now averages 21s. to 25s., where it was 15s. to 21s.; the midwife's now averages 15s., where it was 10s.; and the handywoman aims at the same figures, though she may not always ask as much.

"In spite of this increase the fees are now regularly paid, and in most areas the percentage of cases attended by doctors has also increased.

"It has been impossible to ascertain accurately the proportion of cases attended by midwives and handywomen respectively, as they are classed together in the returns of the Medical Officers of Health.

"*Midwives and Handywomen.*—The general practitioner does not appear anxious to add maternity cases to his list, and it has therefore been found that the skilled services available in the particular areas are inadequate to the needs of the community.

"A line cannot be drawn between the certificated midwife and the handywoman as

differentiating the "desirable" from the "undesirable." There are many midwives whose training has been so short and whose personal habits are such that they are a distinct menace to the patients, while many handywomen have gained their experience under doctors and do excellent work, and are not beset by the overweening confidence that renders some women so dangerous.

"Women were found in regular practice who had an utter disregard for the most rudimentary principles of hygiene; they would carry instruments in their pockets, or, if they possessed a bag, would be ignorant of the uses of its contents. Even a thermometer presented insuperable difficulties to some. Cases were investigated where death had ensued as the direct result of the woman's mismanagement or neglect to summon a doctor, often in defiance of the patient's wishes. In other instances puerperal fever and ophthalmia neonatorum were the less fatal results—and one can only surmise the numberless cases of internal derangement and protracted suffering that must have ensued to many a poor patient.

"It has been found that the midwife amongst the industrial classes is rapidly becoming a visiting practitioner. She attends at confinement and visits the patient one or twice a day for eight or ten days thereafter, and may have six or more cases on hand at the same time. Now that these fees are paid promptly and in full, this would ensure a satisfactory income to any qualified woman. One hundred and fifty cases per year at 15s. per case would bring in £112, 10s., and this is well below the average number found in practice.

"The cost of household help varied according to the status of the patient and to the locality, from a glass of whisky for each dinner made or service rendered to 10s. per week.

"*Conclusion.*—The general conclusions may be summed up thus :—

"1. Maternity benefit is on the whole well spent on mother and child. A large proportion of it is spent on attendance at confinement and during the subsequent period.

"2. The allegation as to the increase in handywomen has not been substantiated, but the clamant need and urgent necessity for a more scientific training and subsequent supervision of the nurses is outstandingly apparent.

"3. As midwifery now tends to be practised, the remuneration obtainable is sufficient to attract a woman with general hospital and midwifery qualifications, whose services would make for the moral and physical progress of the community."

Port-Glasgow.—In one of the towns of the south-western district—Port-Glasgow—some improvement was shown in the year 1913 as compared with 1912. In 1912 doctors attended about 31 per cent. of the births; midwives, 9 per cent.; handywomen, 60 per cent. In 1913 the figures were doctors, 33·5 per cent.; midwives, 18·1 per cent.; handywomen, 48·4 per cent. These percentages are based on a total of 639 births.

In Dr Campbell Munro's report for 1912 the births are analysed according to (*a*) the size of house, (*b*) attendance by doctors, or midwives, or handywomen. The analysis, though on the basis of somewhat small figures, confirms what is said elsewhere as to the correlation between the size of house and the type of service. The one- and two-apartment populations attract the less efficient maternity services. Yet among them efficient service is of even more importance than among the populations better housed. For these conditions maternity benefit does not profess to be a remedy, and it is not; but to the extent that it relieves immediate necessities, the result is good.

Size of House.	Doctors.	Midwives.	Handywomen.
One apartment	24·5	11·0	64·5
Two apartments	25·6	9·2	65·2
Three apartments	62·5	6·9	44·6
Four apartments	77·8	11·1	11·1
Five (and over)	100·0	0·0	0·0

Dr Campbell Munro presents a further striking correlation between the gradation of houses and the gradation of deaths in families. This correlation, whose coefficient amounts almost to unity, confirms, for this small town, the conclusions expressed in larger quantities by Dr Chalmers for Glasgow.

"The number of previous births in a family and the number of children surviving at the date of inquiry was noted in every case, with the following mean result. In the case of the one-apartment houses, 70·3 per cent. of the previous children survived; in the two-apartment houses, 76·0 per cent.; in the three-apartment houses 73·2 per cent.; in the four-apartment houses, 91·1 per cent., in the houses of five or more than five apartments, 100·0 per cent." Wherever this type of analysis is made, the maternity problem is seen to be too complex for solution merely by a money payment to the mother.

Paisley.—One striking fact about Paisley is that, according to the analysis made by the Medical Officer of Health, the percentage of cases attended by doctors among certain classes has fallen, and the percentage attended by midwives has risen in the years from 1908 to 1912. This conclusion is based on the cases visited; those not visited being almost without exception attended by medical men. Whether the real percentage in all cases attended by doctors has fallen, these figures do not show. But among certain classes of case the fact is as stated. Thus the percentage of cases attended by doctors in 1908 was 37; in 1909 it was 26; in 1910 it was 28; in 1912 it was 13. On the other hand, the percentages for the same years attended by midwives were 53, 55, 55, 68, 73. The percentages attended by the handywomen were 5, 14, 12, 14, 9. Decimals are omitted.

The details given in connection with the practice of midwifery by midwives, qualified and unqualified, show that supervision is necessary. Now that the Central Midwives Board is in a position to enforce the calling in of medical men for emergencies, the whole standard of midwifery practice will change. Other details for Paisley are better studied in the maternity and child welfare scheme as proposed for approval of the Local Government Board.

Greenock.—There is a very full report for the large town of Greenock. Many interesting illustrations are given of the way the maternity benefit has been spent. The general conclusion is much the same as for the other localities. The report itself is a very illuminative example of what the medical supervision of midwives will be able to effect. The other details for Greenock are best studied in the account of the child welfare scheme, which is based on a careful report by Dr Cook, the Medical Officer of Health.

Dumfries.—The details given of the administration of maternity benefit in the town of Dumfries are somewhat unsystematic and of a personal kind, not adapted for quotation. A large proportion of cases seem to be attended by midwives; but there are no data to show what proportions are attended by doctors. The general conclusion is that maternity benefit, so far as attendance is concerned, has "not materially altered previously existing conditions. Those of the poorer classes who before called in a handywoman at confinement still apparently do so, with the difference that the handywoman is assured of a fee of not less than 7s. 6d., whereas before she took what she could get, and often got nothing at all. There is, however, this further difference, that where formerly the handywoman had sole charge, the doctor is now called in, in many cases shortly after the confinement has taken place, for the purpose of signing the certificate. This provides a certain amount of medical supervision, as it may be taken for granted that any unsatisfactory supervening symptoms in mother or child would at this visit be detected by the doctor."

Motherwell.—The outstanding fact in the very full report on this active

centre of the coal and iron and steel industries is that 75 per cent. of the confinements are attended by doctors. It is stated that there are "practically no married women in industry in Motherwell." About 70 per cent. of the population live in houses of one and two rooms. Other details about Motherwell are to be found in the account of the schemes of child welfare.

County of Lanark.—In a table prepared by Dr Wilson, the County Medical Officer, the following figures are given:—Number of births in 1913, 6483; attended by doctors, 4106; attended by midwives, handywomen, etc., 2377—that is slightly over 63 per cent. by doctors, slightly over 36 per cent. by midwives and others.

Reports on the town of Barrhead, the large county village of Cambuslang, and other places, furnish much detail of the same order.

But the examples already broadly sketched are enough to show how the system of maternity benefit operates in various types of community.

The facts were mainly collected before the Midwives Act was passed, and are in part superseded; but the main inferences based on them are of genuine administrative value.

6. *General Conclusions.*—This survey of the maternity benefit system of solving the problems of maternity suggests the following general conclusions:—

(1) The general effect of the system has been to raise the standard of attendance on maternity.

(2) On the whole, the money benefit is spent on the purposes for which it was intended, namely, the improvement of maternity service.

(3) In the course of administration, the tendency to limit the individual's choice of doctor or midwife has asserted itself in various forms—sometimes as payment in "kind"; sometimes as special provision of a nurse; sometimes, and this is the most important, as an arrangement with a maternity institution for the special attendance of its maternity nurses.

(4) The general drift of administration seems to be towards the provision of medical and midwifery service rather than towards an increase of the individual's freedom of choice.

(5) But the most striking development is the arrangement for more institutional accommodation and treatment, indoor and outdoor.

These results of the system were to be expected. The attractions of individual freedom of choice have tended to fade away under more mature experience. The mothers are beginning to realise the elementary truth that treatment at home has its limits, and that public institutions and the service they provide, both indoor and

outdoor, are really instruments for the better realisation of the primary purposes of the home. In the last twenty-five years I have seen many illustrations of this practical drift of feeling, first, towards extreme exaltation of domesticity, and then, by reaction, towards a better understanding and appreciation of the nature of public service. The rapid evolution of the effects of the maternity benefit system is in accord with many similar evolutions in other social departments.

Meanwhile, the Midwives Act will promote the training and organisation of the whole system of midwifery attendance. The new powers of the Notification of Births (Extension) Act will expand the whole conception of the public provision for the health of expectant mothers, nursing mothers, and children. By its nature, the maternity benefit system is confined to insured persons. No national system can rest permanently at such a point. From the beginning, the system of State insurance was necessarily progressive; but the methods of realising the concept of insurance are not always the same. Here, in a striking instance, we see it passing under our eyes from an elaborate personal provision into a much more comprehensive but fundamentally more simple system of public maternity and child welfare service. If I interpret aright the impulses that have generated the schemes now maturing all over Scotland, they have a deeper root in the social organisation than any system controlled by the machinery of individual registration and recorded contributions can have.

One effect of the present administration of this system is delay in payment of benefit. On this point, Dr Sutherland writes:—

> "The interval between confinement and payment of benefit varies from about three to fourteen days normally, although many cases occur in which payment is delayed for four or five weeks. The most common cause of delay is the ignorance of the insured person, accompanied by a vague dread of signing a schedule. Earlier in the year it was very noticeable that society employees made no effort to help their people in their difficulties, and sometimes even deliberately neglected their duties toward them. One instance is worth quoting now. An insured woman gave birth to an illegitimate child. When she applied for maternity benefit she was told that she was in arrears with her weekly payments and was not entitled to benefit. Upon investigation it was found that the entry of payment had been wrongly made by the insurance agent in her insurance book, and that, in consequence of this, she had not known of the arrears in contributions. Shortly before this time the agent had been dismissed from his employment, and the society would accept no responsibility in the matter. Any delay in payment almost invariably leads to misapplication of the benefit, as the necessities of the actual confinement have had to be obtained otherwise, if obtained at all. The commonest misapplication is found in the payment by the mother of arrears in rent and of small debts, which have often accumulated immediately before the confinement. While these cannot justly be considered as instances of abuse of the benefit, yet it cannot be said that the benefit has been rightly used, as the maintenance and care of the woman during her confinement is supposed to be the essential use of the benefit."

This was in the early days of the administration. But in many localities some delay in payment still occurs. In her contribution on Inverness Miss Graham draws attention specifically to this point.

But by the nature of the system some delay is inevitable. The payment is not due until the confinement takes place. For its own protection an approved society properly requires formal evidence of the birth before making the payment. This is nothing more than correct administration. And there are accidents of the type noted by Dr Sutherland—errors in entry, absence of officials, unknown arrears, and many other circumstances incidental to all business administration. It may very well be—and in one case it was definitely suggested—that the worry about the withholding of the benefit may aggravate the mother's condition and diminish the chances of a satisfactory confinement. Dr Sutherland's suggested remedy is that the benefit should be paid after the twenty-eighth week of pregnancy. It would then be much easier, she states, to make adequate provision for the maintenance and care of the woman during her confinement. But this remedy would be difficult to apply. There would be a large proportion of cases where the pregnancy would not be intimated. The worry attaching to the intimation might do as much harm as good, and, in any case, the method would be liable to the same minor errors as the present method.

It is not my concern to suggest a remedy ; I am concerned only to discover whether the system of an individual money payment made at the time of crisis is a good method of securing adequate technical service for a confinement. To begin with, a certain amount of delay in the payment is inevitable. This lies in the nature of the method of payment. But, as is obvious from the cases recorded, the patients, in many instances, have nothing but the maternity benefit to enable them either to procure the necessary assistance at their confinement or sufficient food for the days of their disablement. If this is so, provision of an adequate maternity service depends on the making of a money payment immediately after the crisis. An expectant mother should be able to rely with reasonable certainty on the provision of maternity service when her hour of stress comes. This is undoubtedly the intention of the maternity benefit system ; but the inevitable delay in the administration of the benefit suggests a doubt whether a payment that is contingent, *first*, on the occurrence of the confinement ; *second*, on the sufficient payment of the individual's

insurance contributions; *third*, on the minor accidents of administration, is a good method of establishing in a prospective mother's mind the reasonable certainty demanded for her condition.

In the large mass of cases, it is true, no such question arises; the system operates smoothly and satisfactorily. But among the marginal cases of poverty, where the maternity benefit may constitute all the resources available at the moment, delay means defeat of the primary object of the system. And the delay is not entirely avoidable even where the administration of the benefit is most efficient. It seems to me that an adequate system of maternity service should rest on the presupposition that, whatever be the best method of securing assistance to a poor household at the moment of crisis, there shall be no uncertainty about the provision of the medical and nursing services. Such provision should not depend, to any degree whatever, on the making of a money payment to the mother at the time of her confinement. The confinement of a mother is always a risk to life. The service provided against that risk should never have to depend either on her capacity to pay the fee for the necessary service or on the actual making of the payment to her by a society. I find it impossible to defend any system that makes the saving of life depend in any way whatever, direct or indirect, on the payment of a given sum of money at the moment when the act of saving is to take place. In the extreme instances quoted this is really what happens. Probably some slight alteration in the method of administration will be enough to meet the criticism. It seems to me that a sound system of maternity administration must dissociate the provision of service from the recovery of outlays. This principle is recognised in the Midwives Act. In emergencies precisely defined by the Central Midwives Board, a midwife is bound to call in a medical practitioner. The Local Authority must pay the medical practitioner's fee. It may afterwards recover the fee from the parent or guardian if he is able to pay it; but the essential point is that the provision of the service does not depend on the economic condition of the mother at the moment.

Doubtless the system of maternity benefit includes other economic elements than the mere provision of maternity service; for instance, the provision of food or bedding. With these points I have no concern whatever. My observations are relevant only to the question whether the provision of service should depend on a payment liable

to so many contingencies. The sound administrative principle seems to be—provide the service first, recover the outlays afterwards. In substance, this principle is honoured in the agreements now made with the public institutions. Where the society undertakes the liability, the institution will provide its maternity service independently of the immediate and individual payment of the sum due. The fact that in the course of a few years this arrangement with institutions has been found necessary, confirms the view I have tried to state, that the method of money payment for a specific service at a specific time has definite limits. As the system further develops, provision of service will be more and more dissociated from the accident of individual solvency.

How far the principle of individual money payments, safeguarded in the way suggested, can properly be extended, I cannot conjecture ; but the present drift of organisation is towards the provision of more institutions better equipped, more public facilities for the obtaining of advice, more intimate use of all the voluntary and official agencies that have grown up to help the expectant and the nursing mother. At present, the maternity benefit system, as I said at the beginning, is the largest national provision, not excepting the Poor Law. Henceforward it will be in varying ways absorbed into the still larger national systems flowing from the powers now conferred on the Public Health Authorities.

The Scottish Insurance Commissioners, in placing at my disposal so large a mass of intimate and carefully recorded details of the whole system of maternity benefit, have made this rapid sketch possible. I regret that I cannot make even a larger use of the materials. From a scrutiny of those intimate reports I can only say that, in the face of immense difficulties, the system has grown into a beneficent and far-reaching social service. But, as I have said, the system had in it from the beginning factors of internal difference that will increasingly assert themselves. I look to the time when the whole system of maternity and child welfare service will pass on to a much higher plane of organisation than anything as yet realised or projected.

CHAPTER V

PROVISION FOR MOTHER AND CHILD UNDER THE POOR LAW

1. *Qualifications for Relief.*—To get relief under the Poor Law an expectant mother must belong to one of four classes: she must be unmarried, or a widow, or a wife whose husband has deserted her, or a wife whose husband is destitute and disabled. An unmarried mother, or a widow, or a woman whose husband is in desertion may pass on to the Poor Roll in her own name; but a married woman living with her husband is a dependant. All children under fourteen are dependants. The two primary conditions that qualify for Poor Law relief are "destitution, coupled with disability to earn a livelihood" (*Majority Report of Royal Commission on Poor Laws, Scotland*, paragraph 136). If, therefore, an expectant mother is to obtain assistance from the Poor Law she must fulfil these conditions.

The present Scotch Poor Law dates back to 1845. Relatively it is an old system. In the seventy-two years it has undergone many administrative differentiations.

> "The following are some of the anomalies under the existing law as interpreted by the Courts. An able-bodied man having a sick wife or dependants is not entitled to have them treated under the Poor Law. If, however, they are lunatic or imbecile, he may obtain relief for them. In this case they are regarded as paupers in their own right, and the man is not even held to be pauperised by the acceptance of such relief. They may also obtain relief if he is in prison, or deserts them, or refuses to live with them, although he may be merely residing in an adjoining parish. . . . A woman living with her husband cannot obtain midwifery relief, but, if living in adultery, she would be relieved in her own name, even when her partner is able-bodied. Such a law operates to the advantage of the criminal or disreputable and to the detriment of the respectable" (*Report for Scotland, Royal Commission on Poor Laws*, etc., Cd. 4922, p. 79).

These conditions alone keep Poor Law administration within very strict limits. By its nature the Poor Law, as developed administratively, can deal only with a fraction of the expectant or nursing mothers. As it is based on destitution and disability, it cannot become a preventive system either of general medicine or of maternal or child welfare. Add to this another fact: to become a pauper is to fall from social grace. An expectant mother will try the Poor Law last. Legally, it is last. Poor Law relief, in the popular mind, is a disgrace. This belief has a hundred social roots. It acts as a

deterrent everywhere. It is a selective agency even on the extreme margin of subsistence. It is, however, true that, in actual administration, the theoretical limits of the Poor Law are very frequently overborne by the humanity of the Poor Law officers. But, however humane the officers, they have never been able to convert the Poor Law institutions or organisations into an adequate system for any but an extremely small fraction of the expectant and nursing mothers.

How small the fraction is may be gathered from a single fact. In the three years 1913, 1914, and 1915 there were 1462 illegitimate children born in the city of Edinburgh. Of these, 61 were born in Craiglockhart Poorhouse. That is, slightly over one twenty-fifth of the total. How many may have been assisted under the outdoor system I cannot tell. Not all of them would have been in need of Poor Law relief; but those in need would, in all probability, have exceeded one twenty-fifth of the whole. This is confirmed from other sources. Many illegitimate births take place in the charitable institutions. This is what we should expect. These institutions are not limited by the conditions of the Poor Law. They are free to consider the merits of each unmarried expectant mother as a principal, not as a dependant. Take one further fact. In Edinburgh during the same three years 17,000 legitimate children were born. Of these, 12 were born in Craiglockhart Poorhouse. It can hardly be maintained that the rest of all the mothers were adequately provided for in their own homes. We know that they were not. If they had been, recent legislation would not have been passed and this Report would not have been called for. But a proportion of the necessitous, not perhaps technically qualified for Poor Law relief, became the charge of the charitable institutions. It is unnecessary to repeat the figures taken from the records of the Maternity Hospital.

2. *The Working of the Poor Law Maternity System.*—But though severely limited, the maternity system grounded in the Poor Law has still a very wide range, both as to principles and as to administrative powers. The working of the system is best shown in a few general illustrations. The details may be profitably studied in the Scottish Reports of the Majority and Minority of the Royal Commission on the Poor Laws. These Reports (Cd. 4922) were published in 1909. Substantially, they still represent the state of the law and

the facts. Full statistical details are given in the Appendix to volume xxx. of the Poor Law Commission's evidence (Cd. 5440). A very elaborate and specialised inquiry into the condition of the children then in receipt of the various forms of the Poor Law relief in certain parishes of Scotland was made by C. T. Parsons, Esq., M.D., London, Medical Superintendent of the Fulham Infirmary and Medical Officer of the Fulham Workhouse. In this inquiry Dr Parsons was assisted by Miss Mary Longman and Miss Marion Philips, B.A., D.Sc. (Cd. 5075). This Report deals with the provision for children under the Poor Law, and gives representative material to test the indoor and outdoor systems of dealing with children, including the system of boarding-out. It would be possible to select from the Report much material that is quite relevant to our present inquiry; but I restrict myself to a selection from notes and reports specially prepared for our present purpose.

3. *Institutional Provision for Maternity.*—Mr Adam Smail, Staff Clerk of the Poor Law Department of the Local Government Board for Scotland, has made a minute inquiry into the births recorded in two of the largest Scottish Poorhouses—Craiglockhart, Edinburgh, and the East Poorhouse, Dundee. He has also furnished information about Glasgow. His Memorandum, which I am not able to reproduce in full, is a statement of present practice illustrated by selected facts. The extracts and summarised notes are sufficient to indicate the method of dealing with expectant and nursing mothers, with their infants so long as they remain in the poorhouse, and with the children (whether born in the poorhouse or not) when they come to an age suitable for boarding-out.

MEMORANDUM, by Adam Smail, Esq., of the Work performed by the Poor Law Authorities in Edinburgh, Dundee, and Glasgow in providing in their Institutions for Pregnant Women, Nursing Mothers, and Children under Five Years of Age.

Introductory

A special study has been made of the work in Edinburgh, and the tables prepared afford a comprehensive view of the activities of the Parish Council.

It has not been thought necessary to submit corresponding tables for Dundee and Glasgow, as those for Edinburgh sufficiently illustrate the types of cases falling to be dealt with by the Poor Law Authorities in the large town parishes in Scotland.

PROVISION UNDER THE POOR LAW

Dundee has only half the population of Edinburgh, but its social conditions are so different from those existing in Edinburgh, and indeed so inimical to the health of the infant, that the work of the Parish Council in relation to children and mothers is of special importance.

For Glasgow (which is roughly three times the size of Edinburgh) information of a more general type bearing on the care of mothers and children by the Parish Council is submitted.

I. Edinburgh

Statement summarising the action taken by Edinburgh Parish Council in the case of Pregnant Women, Nursing Mothers, and Young Children under Five Years of Age dealt with in their Institutions.

1. *Institutions available.*—On 4th August 1914, when war broke out, a new children's home, situated at Crewe Road, Edinburgh, that had been erected for the Parish Council, was almost ready for occupation. It was intended to transfer to it the children resident in Craigleith and Craiglockhart Poorhouses, so as to remove them from a "poorhouse" environment. But military exigencies required that the new home should be devoted to war hospital purposes, and it and Craigleith Poorhouse were given up by the Parish Council for the period of the war.

The inmates from Craigleith Poorhouse were removed on 8th August 1914, and a *temporary* home for children (to accommodate 100) was secured at Balgreen, Gorgie. The Parish Council have thus been enabled to give effect to their project to separate the children from the adult poor. Balgreen Home, however, handles only healthy children that have to be cared for by the Parish Council. Sick children are meantime dealt with in Craiglockhart Poorhouse Hospital, where also all confinements take place. Children sent to Balgreen Home remain there only until they can be boarded-out in the country.

2. *How Pregnant Women are dealt with in the Poorhouse, Length of their Stay, etc.*—On admission, all pregnant women are taken to the hospital and placed in the maternity general wards—three in number—until the child's birth.

A month or so after the child's birth—that is, whenever the mother and child are fit—they are passed over to the main house nursery wards. (Craiglockhart Poorhouse contains three such rooms and a day-room, accommodating seventy.)

Until confined to bed the women are expected to assist in the general work of the hospital—that is, as ward-maids.

The subsequent length of residence of the mother in the poorhouse varies. If she has no home, it may be that she remains as long as a year in the poorhouse. If she is of good character, she may be allowed out without her child, and, if successful in obtaining employment, she is given an opportunity of paying for the child's keep. In such cases the Parish Council may board the child out, and the mother as a rule pays 2s. 6d. per week towards its maintenance. Women of this type are usually of the servant class. Several cases are known where the women have married and are doing

well. There are, of course, other cases. Only in exceptional instances, however, is this procedure followed.

Another class of homeless woman, and an altogether lower class, is described as "factory hands." These women are of such doubtful character that an effort is made to keep them in the institution out of harm's way. The Parish Council do not assist in boarding-out the child (unless in special cases where the welfare of the child calls for such action), and the woman is either compelled to remain in the institution for a considerable time or elects to take her discharge with her young child. The presumption is that in the latter case the Parish Council lose sight of the woman. It may be stated broadly that whenever a woman of that class goes out, she returns again pregnant in due course.

3. *Certification of Feeble-Minded Mothers.*—The powers afforded by the Mental Deficiency Act now enable the more obviously feeble-minded cases to be detained. Pending the provision of special institutions for the segregation of the mentally defective class, temporary accommodation at Craiglockhart has been provided for fifteen men and fifteen women. These cases are placed specially under the guardianship of the Governor by authority of the General Board of Control.

4. *Physical Condition of Children Born in the Poorhouse.*—In Edinburgh children born in the poorhouse, as a rule, are fairly strong. Very exceptionally children are so puny and defective that they have to be kept in the poorhouse hospital till they die. There are perhaps not more than two such cases in a year.

5. *Children Handed over by Parish Council to Persons Undertaking to Adopt Them.*—It is usual in Edinburgh to take children from Poor Law institutions for adoption at about the age of two. If the child is an orphan, and if the Parish Council are satisfied as to the applicant's respectability, the Parish Council may agree to such children being taken over for adoption. It is unusual to let a child go before the age of two. The number of cases of this nature is inconsiderable.

In cases where, say, a servant girl has a home of her own, her parents very often make arrangements for the care of the child by boarding-out, and the young woman is so enabled to resume employment.

6. *Current Views as to the Handling of Expectant Mothers.*—There is a feeling that the first class of woman—that is, women of character and capacity to earn a living—should never have to come into parochial hands. Cases of the kind might more appropriately be dealt with by voluntary bodies, such as Rescue Societies, where the women would be dealt with in a sympathetic way by ladies specially suited for the work.

Of the second class of case—that is, women of lower character and working capacity—the matter is regarded as of much less importance. It is, in the official view, immaterial whether these women came to the poorhouse. The class required to be forcibly restrained.

It is thought that, roughly, there are nearly as many of the second class as of the first.

Speaking of the reasons for the difference between the first and second classes, the Governor expressed the view that in the case of the superior

women, they were better educated, had a better home training, and a higher moral standard. Their environment also was altogether better. In the case of the second class, they suffered from an inferior education and environment. Further, their early training had been so defective that, in short, they "did not know any better."

The first class prefer to go, and do go, to the Maternity Hospital, if possible. If their friends throw them over, however, very often they drift into the poorhouse. The second class go to the poorhouse pretty much as a matter of course.

A few individual cases will show how the mothers and children were ultimately dealt with. A servant, aged 19, after six weeks in poorhouse, was sent to her own parish with the child. A housewife, aged 39, was discharged with her child in order to obtain work. A servant, aged 30, was kept in the poorhouse twelve days; child died three days old. A mother, aged 21, gave birth to illegitimate child; after a month's stay, left at her own request with the newborn infant and her other child, aged 1½ years; mother syphilitic. A servant, aged 34, gave birth to illegitimate child; stayed in poorhouse two years and two months; left on pass taking child out with her, and did not return. A servant, aged 33, after birth of illegitimate child, stayed five months in poorhouse; child transferred to City Hospital, died of measles; mother left poorhouse shortly after; she was epileptic. Charwoman, aged 36, gave birth to illegitimate child (her fifth child), stayed two weeks in poorhouse and left at her own request with child. A servant, aged 26, gave birth to illegitimate child, stayed six weeks in poorhouse, subsequently boarded her child with a guardian, paying 5s. weekly; married two years later and took child to live with her. Several mothers left with the child at their own request. In a group of thirty-four, one is recorded as a mentally weak mother. A girl, aged 17, gave birth to an illegitimate child; stayed eight days in poorhouse, left with child at her request. Child first taken by grandmother, then placed with other guardians, mother paying 5s. per week. Child died, one year old, from bronchial pneumonia. Meanwhile mother had married. There were several stillborn children; several syphilitic mothers; several of the children died of measles; others died of congenital debility days or weeks after birth.

These notes show that the Poor Law has to deal with very difficult types of case. Of thirty-five children born in the Dundee East Poorhouse in the years 1913 and 1914, twenty-nine were illegitimate. Of these, eleven died. The mothers are classified as servants, millworkers, spinners, laundresses, charwomen, barmaids, and housewives. Among the thirty-five mothers were nine deserted wives. In six cases the child was the second illegitimate child; in one case the third, and in one case the fourth.

Among the numbers of mothers accommodated in 1913—a pre-war year—there were seven whose children were not born in the poorhouse; but the mothers, being without homes, had ultimately to enter it with their infants. The causes of their doing so were such as the following: cellulitis after confinement; want of accommodation at maternity home and Salvation Army home; insufficient nourishment; living in lodging-houses with young infants; child born in maternity home, mother then transferred to Salvation Army Shelter; child ill with interstinal catarrh. Those mothers varied in age from nineteen to thirty-seven, but five of them were under twenty-one. They stayed in the poorhouse for periods varying from three days to nine weeks. They illustrate once more the life that is possible on the margin of subsistence. Voluntary charity takes charge for a time; but, in the end, the poorhouse is the only open door.

There are three cases that illustrate another class of difficulty: mothers whose children are born in the poorhouse, leave from time to time to obtain work; they fail to obtain it and are compelled to return with the young child.

There is still another class of case illustrated by twenty-eight cases taken from the year 1913 alone. This is the class where young children enter the poorhouse with their mothers owing to desertion by the father or other cause. Those twenty-eight mothers were accompanied by thirty-nine children over five. Of the thirty-nine, only nine were illegitimate. There were also twenty-seven children under five. These sixty-six children have to come and go with their parents, except where circumstances justify their separation and boarding-out. As a rule, the parents are of the "in-and-out" class, but occasionally illness of the mother or child is the reason for their admission.

One further fact deserves record. In 1915, forty-three children under five entered the poorhouse unaccompanied by their mothers. They were orphans, or deserted children, or separated children, or children removed to the poorhouse for some other reason. The

child may be separated from its parents by an Order of the Court, possibly on the conviction of its parents for cruelty. Perhaps the mother may have been in the infirmary, or an asylum, or prison. Occasionally the child is admitted suffering from grave illness.

In the three years 1913 to 1915 there were three cases where the children entered the poorhouse for a short period along with both parents. The Balgreen Children's Home, in the year 1915, admitted ten children under five. This Home is intended, however, mainly for children of school age.

7. *Royal Commission on Poor Laws' Recommendations in Case of Unmarried Mothers.*—In this connection it is of interest to record the findings of the Royal Commission on the Poor Laws. In their Scottish Report (Majority) (p. 143) they recommend in the case of unmarried mothers :—

(1) That institutional assistance only, save in cases of emergency, should be given to those about to be, or who have already become, mothers of illegitimate children, and that this rule should be strictly enforced.

(2) That a clear distinction should be drawn between the cases (i) of young women who apply for relief in respect of their first confinement, (ii) of women who are of weak intellect, and (iii) of women who repeatedly enter the poorhouse to be confined, and are presumably lost to a sense of shame.

(3) That cases of first confinement should be dealt with in institutions apart from the poorhouse, preferably in charitable institutions ; and that voluntary workers should watch over the mothers on their first return to the world.

(4) That those mothers who can be certified as feeble-minded should be subject to complete control on the lines laid down by the Royal Commission on the Care and Control of the Feeble-minded.

(5) That the hardened woman who repeatedly becomes chargeable on account of illegitimate children should be liable to compulsory detention for such period and subject to such conditions as the Court may direct.

(6) That all cases of unmarried mothers, and particularly cases of first confinement, should receive the special care and attention of the women members of Burgh Public Assistance Authorities, Parish Councils, and Voluntary Aid Committees.

(7) That a Departmental Committee should be appointed to inquire into the working of the present law dealing with the subject of recovery against the putative father of an illegitimate child.

[The Minority Reports for England and Scotland were based on the principle that the causes of destitution should be dealt with at their source and in the ways adjusted to each variety of cause. As to maternity and the care of children, therefore, they make no recommendation that can be expressed in terms of Poor Law ; because the minority considered that the Poor Law was quite unsuited for dealing with the problems involved. But they made positive recommendations from their special standpoint.

"That in accordance with the recommendations of the Royal Commission on the Care and Control of the Feeble-minded, those unmarried mothers who come on the rates for their confinements, and are definitely proved to be mentally defective, should be dealt with exclusively by the Local Authority for the mentally defective.

"That whatever provision is made from public funds for maternity, whether in the way of supervision or in domiciliary midwifery, or by means of maternity hospitals, should be exclusively in the hands of the Local Health Authority.

"That the system, which has already proved so successful, of combining the efforts of both salaried and voluntary health visitors with the work of the Medical Officer of Health and his staff, should be everywhere adopted and developed so as to extend to all infants under school age.

"That the Local Health Authority should in all its provision for birth and infancy continue to proceed on its accustomed principles of—(*a*) the provision, free of charge, of hygienic information and advice to all who will accept it ; (*b*) the strict enforcement of the obligation imposed upon individuals to maintain in health those who are legally dependent on them ; and (*c*) where individual default has taken place in this respect, the immediate provision of the necessaries for health, and the systematic recovery from those responsible, if they are able to pay, of repayment according to their means."

In the Mental Deficiency Act and in the Notification of Births (Extension) Act, 1915, the principles involved differ little from those here recommended.—W. L. M.]

PROVISION UNDER THE POOR LAW

Craiglockhart Poorhouse

For the three years ending 31st December 1915 the children born in Craiglockhart Poorhouse Hospital numbered 73. Of these, 61 were illegitimate. Of the 73 born, 24 died. Thus, to the knowledge of the parochial authorities, one-third roughly of the children born in Craiglockhart Poorhouse died. (In Dundee East Poorhouse in the years 1913 and 1914, 35 children were born, of whom 11 are known to have died at an early age—giving a proportion similar to Edinburgh.) It should be noted, however, that the Edinburgh figures include deaths other than those occurring in the poorhouse. Five of the deaths, for instance, were known to the Governor as having been due to infectious disease. They occurred in the City Fever Hospital.

TABLE I.—CRAIGLOCKHART POORHOUSE, EDINBURGH

Year.	Number of Births.			Number of deaths among foregoing births (including stillborn).	Ages of Children at Death.					
	Illegitimate.	Legitimate.	Total.		Stillborn.	0–1	1–2	2–3	3–4	4–5
1913 . .	18	5	23	7	3	4	..	..	..	..
1914 . .	25	4	29	9	2	4	3*	..	..	..
1915 . .	18	3	21	8	2	6	..	..	..	..
Totals	61	12	73	24	7	14	3	..	..	..

* Two of these deaths from measles.

8. *Illegitimate Births.*—It has been shown that, during the year 1914, 25 illegitimate births occurred in Craiglockhart Poorhouse. When it is stated that over 600 illegitimate births were recorded in the city for that year, one remarks the small number dealt with by the parochial authorities. In many ways this is a matter for congratulation. The Maternity Hospital records show that between in-patients and out-patients some 330 unmarried mothers are assisted annually. There are known to the Parish Council officials, however, no less than six private nursing homes where a business is made of affording accouchement facilities to women about to become mothers of illegitimate children. The actual number of births taking place in these establishments is not known to the Parish Council, but it is conceived that by co-operation between that body and the Medical Officer of Health such information could be obtained, as by the Notification of Births Act all births occurring in the city must now be notified to the Medical Officer of Health, in the interests of the health of the infants. Some years ago the Local Government Board arranged with the principal Scottish newspapers that they would not accept notices of advertisement relating to such establishments unless the persons desiring to insert the notices first obtained the authority of the Parish Council concerned. By this means the Parish Council officials know of the existence of the private nursing homes. Information on this point is also available from the records required to be kept in the Parish Council office in terms of Part I. of the Children Act, 1908, of children under seven boarded with strangers for reward. The children whose dates of birth are furnished to the officials must form only

a negligible proportion of the births actually occurring, as the particulars given relate only to children whose names subsequently have been notified to the Parish Council as having been adopted or boarded for a money payment within the parish boundaries of Edinburgh. It may reasonably be assumed that many children born in Edinburgh private nursing homes are boarded in the country, or at least outwith Edinburgh, so that they are not known to the Edinburgh Parish Council. Again, a number of the children born in these homes may be disposed of in such a manner as to preclude the necessity of notifying any Parish Council, *e.g.* as in the case of a woman resorting to Edinburgh to give birth to a child and immediately afterwards returning to her own part of the country with her infant.

Summarising the foregoing facts, therefore, it will be found that over 600 illegitimate births occur in Edinburgh annually. Some 25 are dealt with in the poorhouse, 330 or so are dealt with through the Simpson Memorial Maternity Hospital, and the remainder (245) take place, it may be assumed, in (1) the six private nursing homes referred to, or (2) their own homes, where presumably the mothers are attended by either (*a*) their own doctors; (*b*) doctors, students, or nurses from hospitals or dispensaries (out-patient cases); (*c*) parish medical officers (parochial outdoor relief cases—a negligible number); or (*d*) by midwives without the attendance of a doctor.

The problem of the diversion from the poorhouse of the young woman who has made her first slip is thus in Edinburgh not a serious one. A scheme might be devised whereby such cases, on applying for parish indoor relief, would be referred to an institution in which the mother would be saved from contact with the dissolute women who resort for their confinements to the poorhouse. No doubt the parish authorities must take care not to refuse relief to any pregnant woman making application to them. But under Section 67 of the Poor Law Act, 1845, it is competent for a Parish Council to contribute out of the poor rates to any lying-in hospital, so that an arrangement might be come to with (say) the authorities of the Maternity Hospital to handle such cases at the time of their confinement, the Parish Council paying a fixed sum per case. This would also entail, of course, arrangements for the housing of the mother before the birth and after it. But the arrangements for the prematernity home that is run in connection with the hospital are at present being revised, and a proposal to increase the accommodation has been formulated, so that the difficulties as to space that have hitherto prevailed may not offer the stumbling-block that they otherwise would. The home for the reception of after-maternity cases might be utilised too. The cost of any extension found necessary would doubtless readily be met by the charitably disposed public of Edinburgh.

In Dundee this difficulty does not arise quite so acutely, as four-fifths of the women entering the poorhouse are already of a distinctly low moral type.

In Glasgow, again, the parish authorities have recognised the difficulty and have met it in a fashion that is worthy of record here. When a pregnant woman makes application for relief, she is passed on to a female officer of the Parish Council who makes very full inquiry into her circumstances. That officer determines the class to which she belongs, and the applicant is sent to Barnhill Poorhouse Hospital if she is of the lower type, or to the

Eastern District Hospital (Duke Street) if she should be of the superior class. The possession of specialised institutions enables this to be done in Glasgow, though it is, of course, impossible in parishes possessing only "mixed" poorhouses. Duke Street Hospital referred to corresponds to the best type of English Poor Law Infirmary, and treatment therein is not regarded by the poorer classes as shaming them in the same way that treatment in an ordinary poorhouse would.

II. Dundee

Statement summarising the Action taken by the Parish Council in the case of Pregnant Women, Nursing Mothers, and Children under Five Years of Age provided for *in their Institutions*

1. *Institutions Available.*—Owing to the hospital at the East Poorhouse having been taken over for the accommodation of wounded and sick soldiers, the conditions in the *Parish Institutions* of Dundee are not normal. Hitherto pregnant women provided for by the Parish Council have been dealt with in the poorhouse hospital, but it has been necessary to make temporary provision for them in the maternity block of the Royal Infirmary. In the Infirmary there are, in all, 415 beds; 30 of the beds are allotted to maternity cases. In a normal year more than 350 maternity in-patients are dealt with.

2. *No Private Nursing Homes in Dundee.*—In Dundee, unlike Edinburgh, the Inspector of Poor is unaware of the existence of any private nursing homes for illegitimate confinements.

Ordinarily, births take place in the poorhouse and not in the Children's Home. Thus the arrangements in Dundee and Edinburgh are similar. In Paisley, for example, the practice is different, but as a rule the larger Parish Councils arrange that confinements shall take place in the poorhouse hospitals.

3. *Children's Home.*—The recent acquisition of Ashcliffe House, the new Parish Council Home for Children in Dundee, is worthy of remark. For a considerable time the Parish Council had been contemplating the removal of all children from the poorhouse. When the Military Authorities took over the poorhouse hospital the question became acute, and accordingly opportunity was taken to acquire a vacant mansion-house where all children, both sick and healthy, can be accommodated. There is room for 70 children, but extra accommodation is ultimately to be provided.

For the last seven months of 1915, 58 children under five years were admitted to the home. For the complete year to 27th May 1916, some 92 young children were dealt with. These are considerable figures.

One outstanding feature is the number of cases of soldiers' children, where the mother is in prison. The absence of the father and dissipation or misconduct on the mother's part, with consequent child neglect, have added not a little to the responsibilities of the Parish Council at this time. In other cases, mothers break down in health through working in factories, and the Poor Law Authorities are called on to provide for the children. Too often the husband is a wastrel, dependent on the earnings of the wife, so that, in normal times, when she falls ill, the children are found to be neglected and become a public burden.

4. *How Pregnant Women are dealt with in the Poorhouse, Length of their Stay, etc.*—Pregnant women are treated in the East Poorhouse much the same way as in Craiglockhart Poorhouse, Edinburgh. On admission they are taken to the hospital and placed in the maternity general wards. Soon after the child's birth—in from fourteen to twenty-one days—the mother is passed into the main house and the child is sent to Ashcliffe Home. There is no accommodation for mothers at that Home, so that the infants have to be bottle-fed. This arrangement has obvious drawbacks, but it is difficult to see how to remedy these.

Afterwards the length of residence of the mother in the poorhouse varies. Usually the period is short. Even if the mother is of the better class she is not allowed out without her child, as it is felt that if she were relieved of it she might be induced to get into trouble again. Arrangements are never made by the Parish Council for boarding-out the child, even although the mother is prepared to pay a weekly sum. In this respect the Edinburgh and Dundee practices vary. In Dundee experience of relieving the mother of her burden has not hitherto proved encouraging.

As in Edinburgh, the better types of women are practically all of the servant class. The Inspector of Poor is aware of several cases where the mother of one illegitimate child is now doing well.

In Dundee a large number of lower class women (millworkers) come into the hands of the Poor Law Authorities. Indeed, while it has been shown that in Edinburgh the proportions of servants to "factory hands" are equal, in Dundee there are four women of the lower class to every one of the servant or better-class type. When this is kept in mind, the steady refusal of the Parish Council to assist in arranging for boarding-out the children is intelligible.

5. *Certification of Feeble-Minded Mothers as yet a Dead Letter.*—So far as the certification of mental defectives is concerned it has not been found possible to take action. But an effort is made to retain these women in the poorhouse. They are, as far as possible, "kept in." No special temporary accommodation has, however, been made for them as in Edinburgh.

6. *Physical Condition of Children Born in the Poorhouse.*—As regards the physical condition of the children born in the poorhouse, Dundee's record is different from that of Edinburgh. Strong healthy children at birth are said to be the exception. A number of the children are so puny that they have to be kept in the institution till they die. It has not been possible to give for Dundee the ages at death or the causes of death, and though the proportion of deaths for the Edinburgh and Dundee poorhouses is shown to be similar, if detailed inquiry into individual cases in Dundee had been conducted (as was done in Edinburgh) a much less favourable figure for Dundee would probably be shown. One special cause of mortality among the Dundee infants may here be referred to. When mothers return to work at the mills the children are left to the care of old women who, either through ignorance or neglect, feed them from dirty bottles.

As in Edinburgh, the parents of a girl giving birth to an illegitimate child very often make arrangements for the care of the child by boarding-out, and she is enabled to resume employment.

7. *Views as to the Handling of Expectant Mothers.*—So far as the method of dealing with unmarried mothers is concerned, the Inspector of Poor of Dundee and the Governor of the East Poorhouse are at one with the Governor of Craiglockhart Poorhouse. That is to say, they all entirely concur in the recommendations of the Royal Commission on the Poor Laws on this subject. It is felt in Dundee that the respectable young woman should not enter the poorhouse at all. She should be provided for in the Maternity Hospital. It is immaterial whether the low-class mother enters the poorhouse, but restraint of her movements in some way is called for. The greater proportion of lower class women in Dundee and the low moral code are easily accounted for. The standard of living and education is inferior. Girls are employed as half-timers, and, obtaining exemption from school at the age of thirteen, they immediately commence spending their days in the mills surrounded by the temptations that such a life entails.

8. *Parish Council's Method of Dealing with Children.*—In Dundee, where child neglect is so rife, the Parish Council are called upon to deal with a very considerable number of children annually. The Children's Home affords but limited accommodation, and in any case it is expected to be used only for sick children, for children requiring temporary accommodation, or for children that are not quite ready for boarding-out in the country. Boarding-out is what is mainly aimed at, where, at least, the Parish Council have become permanently responsible for a child. Dissolute parents are from time to time relieved of their children, who are sent to guardians in the country. In such cases the Parish Council often see fit to withhold the address of the children. Again these parents are often content to let the Poor Law Authorities shoulder the cost of maintaining the children in their earlier years; but they begin to assume considerable interest in the children when they are about to reach the wage-earning age of fourteen!

9. *Age at which Children are Boarded Out.*—Dundee Parish Council boards out children at all ages, but not usually younger than eighteen months or over ten years. The average age may be said to be between five and six.

Notes on Children admitted to Ashcliffe (Children's Home), Dundee

This Home is one of the institutions of the Dundee Parish Council. A few notes on the kinds of cases admitted will indicate, *first*, the social conditions that the Parish Council has to deal with; *second*, the difficulties that have to be solved before the care of the children can be regarded as socially adequate.

The notes refer only to children under the age of five. These are the cases entering Ashcliffe Home for the period from 27th May to 31st December 1915. Of the total children, 12 were under one year of age, 14 were between one and two years, 11 were between two and three, 10 were between three and four, and 8 were between four and five years.

On the 22 illegitimate children, the following notes are given:—Mother in poorhouse, mental case; separated, mother domestic servant, third illegitimate child; three cases separated, mother in poorhouse, mill-worker, five illegitimate children, two other children under five also admitted; separated, in prison; separated, mother in poorhouse, handed to mother,

readmitted later, child blind and syphilitic, died five months old of diarrhœa ; mother in poorhouse, readmitted later as orphan ; separated ; mother in prison, handed back to mother ; mother in poorhouse, handed back ; two cases, mother in poorhouse, children in-and-out of Children's Home several times ; mother in poorhouse, domestic servant, child born in prison ; separated, child suffering from marasmus, taken away by mother ; child with abscess in hip, mother in poorhouse, taken by mother ; separated, admitted with three elder brothers and sisters, mother in prison ; eparated, admitted with diarrhœa, died seven months old ; mother on outdoor roll ; malnutrition, taken back by mother ; separated, died, diarrhœa, mother paralytic. In these cases the stay in the Home varied from three days to four months ; but the majority were in the Home only for short periods, such as two weeks.

Among the legitimate children the records are much the same ; for example, separated, mother in prison for neglect ; deserted by father who was imprisoned, mother in asylum ; separated, mother in infirmary ; deserted ; separated, mother in infirmary ; mother in poorhouse, father in asylum ; mother since dead. Occasionally there is a record of "father a soldier, mother drinking."

The most superficial study of these notes will satisfy anyone that the cases dealt with all lie on the margin of civilisation. The Parish Council has to deal with the products of causes that are beyond its control. Within the limits, the work the Parish Council does is admirable ; but, by the nature of its constitution, it is obliged to exercise the most stringent selective scrutiny.

III. Glasgow

1. *Institutions given over for Use as War Hospitals.*—It might be explained that the Parish Council's Oakbank (Western District) Hospital has, for the period of the war, been entirely handed over for use as a military hospital, as has their Stobhill Hospital with its 1942 beds, a considerable number of which normally serve for the accommodation of sick children and children requiring institutional care prior to being boarded-out in the country.

2. *Births in Parish Council Institutions for Years 1901 to 1906.*—In submitting his evidence before the Royal Commission on the Poor Laws, Mr Motion, the Inspector of Poor of Glasgow, included a return showing the births in all the institutions belonging to Glasgow Parish Council for the six years 1901 to 1906. A copy of that table is here reproduced, viz :—

Institution.	1901.	1902.	1903.	1904.	1905.	1906.	Total.
Eastern District Hospital . .	..	..	..	..	84	108	192
Western District Hospital . .	..	..	..	..	38	65	103
Stobhill Hospital . . .	..	..	..	..	19	33	52
Barnhill Poorhouse . . .	35	34	35	32	14	6	156
City Poorhouse	78	81	103	110	17	..	389
Total . . .	113	115	138	142	172	212	892

Of the foregoing births the following were illegitimate, viz :—

Institution.	1901.	1902.	1903.	1904.	1905.	1906.	Total.	Single.	Married.	Widow.	Total.
Eastern District Hospital . .	..	..	..	...	57	77	134	123	6	5	134
Western District Hospital . .	..	..	..	..	21	50	71	66	5	..	71
Stobhill Hospital .	..	..	..	..	12	11	23	20	2	1	23
Barnhill Poorhouse	19	18	26	18	8	3	92	78	6	8	92
City Poorhouse .	56	54	56	61	2	..	229	202	11	16	229
Total . .	75	72	82	79	100	141	549	489	30	30	549

That is to say, that of all the births provided for in their institutions for the period in question over 60 per cent. were illegitimate.

Mr Motion went on to say that thirteen applications were received during the year 1905–6 from females who had purposely come from Ireland or England to Glasgow to be confined.

" In addition to what I call the ordinary application by these women, we have a considerable number sent to us by the Maternity Hospital authorities of Glasgow, a private philanthropic institution. It seems to be pretty well known, not only in Glasgow but also in the neighbourhood, and as far away as Ireland, that this place is open for the reception of women of all sorts and conditions, with the result that numbers come into the city, procure lodgings with their friends or otherwise, and when their time arrives make their way to the Maternity Hospital, where they are confined ; but, owing to the want of accommodation, a number of these people, when they reach the door, are referred to us here, and a considerable number naturally object to go into our hospitals, while coming into Glasgow practically on the invitation of the Maternity Hospital authorities. If there is no room for them they are bundled down to us, and some very painful scenes are witnessed in our Application Department. During the past year we have had seventeen cases sent from that institution.

" Our experience is that, while a number of these cases are young women, a considerable number of married women are attended to, which seems to indicate that men after marriage lose all sense of their responsibility as to what is coming, and make no provision whatever for the new arrival, while these men have been earning a wage perfectly sufficient to enable them to make provision for all that is required. This is another instance of what is being done for the people being taken advantage of by those who ought to be able to look after themselves."

3. *General Care of Children.*—The Parish Council's arrangements for dealing with the many children falling to their care are very well thought out and comprehensive. The magnitude and importance of the duty laid on them has been so borne in on the Parish Council that particular attention is given to this branch of their work, with very satisfactory results. (See below.)

4. *Evolution of Parish Councils' Function in Dealing with Children.*—It is of interest to point out here that under the Poor Law Act of 1845 the

duty imposed on Parish Councils towards children consisted merely in affording them what is termed "poor relief" in common with the older persons comprising the pauper class. That is to say, there was no suggestion that they should be singled out for any special care and treatment. From experience, the handling of children in "mixed" poorhouses has come to be universally condemned, and so in Scotland the provision of special children's homes has been begun and is likely to develop.

Apart from some minor earlier statutes, the passing of the Children Act of 1908 marked a definite addition to the duties of Parish Councils in relation to children and may be said to have awakened an increased consciousness on the part of the public bodies to neglected children, and generally to the necessity of treating the children apart from the adult poor.

The following extracts from a Circular of the Local Government Board for Scotland, dated 2nd April 1909, indicate some of the points with which Parish Councils who are entrusted with various important duties under the Act, were required specially to deal, viz. :—

"PART I

"INFANT LIFE PROTECTION

"*Summary of Parish Councils' Duties under the Children Act,* 1908

"This part of the Act is substituted for the Infant Life Protection Act, 1897, which is repealed.

"Section 1 provides for notices being given to the Parish Council by persons receiving infants for reward, and attention may be directed to subsections 1 and 3, which have reference to the time of sending the notice and to the particulars required. Subsection 4 requires the due notification of any change in the address of any person who has undertaken the nursing and maintenance of any infant, and by subsection 5 such person is required to give due notice of the death or removal of any infant for whose nursing and maintenance he has become responsible. Subsection 7 enacts that if any one fails to give the required notice within the time specified, he shall be deemed guilty of an offence; and deals with the penalties which may be imposed.

"By Section 2, Parish Councils are required to provide for the execution of this part of the Act, and accordingly (subsection 2) if any infants are placed out in the parish under the Act, the Parish Council must appoint one or more persons of either sex to be 'infant protection visitors,' whose duty it shall be to satisfy themselves as to the proper nursing and maintenance of the infants, and to give such advice and instructions as may be necessary. The proviso to this section allows the Parish Council in those cases where the infants have been placed out to nurse by any philanthropic society, if they are satisfied that the interests of the infants are properly safeguarded, to authorise the society to exercise the powers of infant protection visitors, subject, however, to the condition that they shall furnish periodical reports to the Parish Council. By subsection 3, Parish Councils may combine for the purpose of executing the provisions of this part of the Act, and for defraying the expenses thereof. Subsection 4 provides for the exemption from visitation of any particular premises which the Parish Council may consider that it is not necessary shall be visited.

"Section 3 has reference to those persons who are prohibited from receiving children for reward saving with the written sanction of the Parish Council. These are (*a*) persons from whose care any infant has been removed under this part of the Act, or the Infant Life Protection Act, 1897; or (*b*) persons living in any premises from which any infant has been removed by reason of the premises being dangerous or insanitary, etc.; or (*c*) persons who have been convicted of any offence under Part II. of this Act (Prevention of Cruelty to Children and Young Persons), or under the Prevention of Cruelty to Children Act, 1904.

"Section 4 empowers the Parish Council to fix the number of infants under the age of 7 years that may be kept in any dwelling under this part of the Act.

"Section 5 provides for the removal of any infant improperly kept, and enacts that any visitor or other person appointed or authorised to execute the provisions of this part of the Act may, in certain circumstances, apply either to a Justice of the Peace or (Section

132 (9)) Sheriff or Magistrate, or to the Parish Council, for an order directing him to remove the infant to a place of safety until it can be restored to its relatives or be otherwise lawfully disposed of.

" Section 7 prohibits the insurance of the life of any infant kept for reward under this part of the Act.

" Section 11 (subsection 1) enacts that the provisions of this part of the Act shall not extend to any relative or legal guardian of any infant who undertakes the nursing and maintenance of the infant, or to any person who undertakes such under the provisions of any Act for the relief of the poor or of any order made under any such Act ; or to hospitals, etc. ; and subsection 2 defines the meaning of the expression ' relatives,' which includes grandparents, brothers, sisters, uncles and aunts, by consanguinity or affinity, and, in the case of illegitimate infants, the persons who would be so related if the infant were legitimate.

" PART II

" Prevention of Cruelty to Children and Young Persons

" This part of the Act is to a large extent substituted for the Prevention of Cruelty to Children Act, 1904, many of the provisions of which are repealed.

" Section 12 of the new Act provides that any person over the age of 16 years having the custody, charge, or care of any child or young person who wilfully assaults, ill-treats, neglects, abandons, or exposes such child or young person, or causes or procures such child or young person to be assaulted, ill-treated, neglected, abandoned, or exposed in a manner likely to cause such child or young person unnecessary suffering or injury to its health (including injury to or loss of sight, or hearing, or limb, or organ of the body and any mental derangement), shall be guilty of an offence. Such an offence (subsection 8) is termed an offence of cruelty, and the Act makes provision as to the penalty that may be inflicted on the offender. In this connection it may be noted that the section also provides that the Act shall apply in the case of a parent or legal guardian who, being without means to maintain a child or young person, fails to provide for its maintenance under the Acts relating to the relief of the poor ; and by Section 38 (2) for the purposes of the Act any person (*a*) who is the parent or legal guardian of a child or young person, or who is legally liable to maintain a child or young person, or (*b*) to whose charge a child or young person is committed by any person who has custody of the child or young person, or (*c*) any other person having actual possession or control of a child or young person, is to be presumed to have the custody or charge or care of the child or young person.

" By Section 34, read along with Section 132 (subsections 7 and 8), Parish Councils are empowered to institute any proceedings under this part of the Act for any offence in relation to a child or young person, and to pay out of the Poor Rate the reasonable costs and expenses of such proceedings.

" Under Section 20 (1) a constable or any person authorised by a Justice of the Peace or Sheriff or Magistrate is empowered to take to ' a place of safety,' which is defined by Sections 131 and 132 (6) as including (among other places) a Poorhouse, any child or young person in respect of whom an offence under this part of the Act, or any of the offences mentioned in the first schedule to this Act, has been, or there is reason to believe has been, committed. A child or young person thus taken to a Poorhouse, as well as any child or young person who seeks refuge in a Poorhouse as a place of safety, may be detained there until it can be brought before a Court of Summary Jurisdiction, and that Court may make such order as is mentioned in subsection 3 of the above quoted section, or (subsection 2) may cause the child or young person to be dealt with as circumstances may admit and require, until the charge made against any person in respect of any offence as above mentioned with regard to the child or young person has been determined by the conviction or discharge of such person.

" Again, in certain circumstances mentioned in Section 24, power is given to a Justice of the Peace or Sheriff or Magistrate to issue a warrant authorising a child or young person to be taken or removed to a Poorhouse as a place of safety, and to be detained there until it can be brought before a Court of Summary Jurisdiction, who may cause it to be dealt with as above indicated.

" By Section 38 (3) it is provided that this part (II.) of this Act shall apply in the case of a child or young person who has been committed to the care of a relative or other fit person under the Prevention of Cruelty to Children Act, 1904.

" By Section 126, Parish Councils are bound to provide for the reception of children and young persons brought to a Poorhouse in pursuance of this Act, and where the place of safety to which a child or young person is authorised under the Act to be taken, is a

Poorhouse, the Governor of the Poorhouse is required to receive the child or young person into the Poorhouse if there is suitable accommodation therein. Any expenses incurred in respect of the child or young person are (Section 132 (8)) to be deemed expenses against the establishment charges of the Poorhouse.

"Section 131 defines the expression 'child' as a person under the age of 14 years, and the expression 'young person' as a person who is 14 years of age or upwards and under the age of 16 years.

"Attention is also directed to Section 15 of Part II. of this Act, which now makes it a penal offence for any person over the age of 16 who has the custody, charge, or care of any child under the age of 7 years, to allow that child to be in any room containing an open fire grate not sufficiently protected to guard against the risk of accident, without taking reasonable precautions against that risk, the child thereby being killed or suffering serious injury.

"Parish Councils are directed to Section 132 (20), under which they may, with the approval of the Board, subscribe to the funds of an association or society for the prevention of cruelty to children."

In concluding their Circular the Board remarked that they did not "doubt that Parish Councils will note *the increased duties which the Act imposes upon their Inspectors.*"

Probably the additional powers conferred have nowhere in Scotland been more actively exercised than in the Parish of Glasgow. This is shown (1) in a supplementary Report by the Inspector of Poor, dated 1910, and (2) a Memorandum regarding the procedure adopted by the Parish Council and the Inspector of Poor, dated 1911. These serve to give an idea of the manifold functions exercised under this Act in the largest parish in Scotland. (See chapter on Provision for the Protection of Infant Life.)

The following extracts from a more recent Report of the Inspector of Poor—that for the half-year ended 15th November 1915—bear on this question :—

(1) Since the war began there has been a notable and regrettable increase in the number of children becoming chargeable to the parish. This is in large measure due to the prosecution of mothers under the Children Act for neglect and ill-treatment, not because of actual want or destitution, but owing to the amount of money passing into the hands of the mothers from Army and other sources, which was squandered in drink and debauchery, while the children were left unprovided for. We have had several letters from fathers at the front asking the Council to look after their wives (who were known to have gone astray) and their children, for the time being, and the increase is the result of the committal of such children by the Sheriff to the care of the Parish Council.

(2) *Proceedings under the Children Act,* 1908. *Part I. (Infant Life Protection).*—Notices received from new guardians, 145. Infants notified in terms of Section 1 (1), 247.

Infants removed :—To parents, 63 ; to other guardians, 77 ; to other guardians in other parishes, 34 ; with guardians to other parishes, 16 ; to hospital, 12 ; off roll as having attained the age of 7 years, etc., 26 ; from undesirable guardians, under order of a Justice of Peace, 1—total, 229.

Deaths reported, 23.

During the past half-year 1473 visits were made by the Infant Protection Visitor.

The number of infants notified since the Act came into operation on 1st April 1909 is 3973, with 2820 guardians. The number now remaining under supervision is 646, with 611 guardians.

During the six months, 96 infants were notified to us by the Medical Officer of Health as having been born in the houses of various midwives, and in connection with the Deserted Mothers' Home.

(3) *Adoption Advertisements.*—In accordance with the recommendation contained in the Local Government Board circular of 14th June 1910, the proprietors of the Glasgow newspapers have forwarded to us 311 advertisements relating to the adoption of infants, which were disposed of as follows :—282 offering infants for adoption, etc., all granted permission to advertise; 29 desiring infants, granted permission to advertise; 7 desiring infants, refused as undesirable.

Inquiries respecting 76 persons replying to advertisements and desiring to take charge of infants, resulted as follows :—

Of those resident in Glasgow—50 recommended as suitable, and 26 as undesirable guardians. Resident in other parishes (120)—82 recommended as suitable, and 38 as undesirable guardians.

This department is undoubtedly a very effective check upon baby-farming, and has been the means of preventing many children from being taken charge of by undesirable guardians, of whom a large number are now registered. In the knowledge that any information they give us is treated as strictly confidential, mothers are consulting our officials in charge in increasing numbers before placing their infants out for adoption, or to be nursed. The following case shows the beneficial results obtained by our constant supervision over adoption advertisements. In July last we were enabled to furnish the Inspector of Poor at Maybole, Ayrshire, with information which led to the prosecution there. The case referred to was one in which a woman in Maybole had adopted two different infants from midwives in Glasgow—in each case receiving £7 as premium, and failed to notify the local Inspector of Poor under the Children Act; and on 27th July she was convicted of this offence at Ayr Sheriff Court and fined £3 or 14 days' imprisonment.

The offence was aggravated by the fact that she wrote threatening letters and blackmailing postcards to the parents of one of the infants, demanding further sums of money; and it was also discovered that she was making an effort to adopt another infant from a midwife in Glasgow, but, fortunately, we were able to prevent this. The evidence was chiefly taken by the Criminal Officers' Department and thereafter forwarded to the Maybole Inspector of Poor, with the above result.

Sixty mothers were placed in touch with suitable guardians for their infants. In 41 cases where infants had been adopted without payment, visits were made by the Infant Protection Visitor. In 37 cases of these the conditions were found to be satisfactory, but the remaining 4 were noted for further supervision.

Three midwives were granted permission to advertise their rooms for accouchement.

Any loopholes affording escape from the requirements of Part I. of the Children Act may be said to have been not ineffectively closed up by recent legislation, in particular the Notification of Births (Extension) Act and the Midwives (Scotland) Act.

IV. Conclusion

In drawing up this Memorandum the intention has been to present material illustrative generally of the work performed by Parish Councils in relation to mothers and infants, rather than to submit a critical or constructive statement.

There is a marked similarity in the types of cases falling to be handled under the Poor Law in all the large town parishes.

The indoor treatment afforded under the Poor Law has been given special emphasis because the *outdoor* work in relation to pregnant women, nursing mothers, and infants is of secondary account. From information supplied by the Parish Councils of Edinburgh, Dundee, and Glasgow it appears that the outdoor medical officers hardly ever attend maternity cases in the homes of the poor. Such cases are, in the main, provided for in other ways.

Emphasis has been laid on the illegitimate births occurring in poorhouse hospitals, because such births largely preponderate. In the case of the legitimate births in poorhouses, there may be said to be the factors present of unfortunate family circumstances or of actual improvidence on the part of the husband. Under improved social conditions, and with a higher standard of responsibility among the poorer classes, such cases should become fewer. It has to be remarked that the maternity benefit available under the National Insurance Act has already caused a marked diminution in the number of births falling to be provided for by the Poor Law Authorities. It can be foreseen that with increased attention to child welfare work, officially and

charitably, the duties of Parish Councils in this respect will become even yet lighter. The burden is being gradually transferred to the shoulders of the Public Health Authorities, who are rapidly elaborating and perfecting their machinery for coping with the needs of the community.

4. *The Boarding-Out System.*—The boarding-out system is one of the best departments of Poor Law work. The primary intention of the system is to secure to the child an opportunity for growing up in a normal social environment. In most cases the only alternative is some institution. In all cases it is necessary to separate the child from the parent temporarily or permanently. It would be easy to fill this Report with the sad and cruel tales of the conditions that lead to the separation of parents and children; it would be possible, if not so easy, to produce records of brave mothers whose temporary separation from their children has ended in a triumphant reunion. It is certain that, on the whole, the life the children go to when they pass away from their parents and the poorhouse is better than the life they leave. No one that has visited a few of the boarded-out children in the Highlands and Islands can have any doubt on the point. That the system is only a partial remedy, every one knows. But it is a great social conception, and, in spite of the fact that the boarded-out children are the children of destitution and social defeat, they do in large proportion achieve an honourable record.

There are no data immediately available to show how many children under five are boarded out. In some of the larger poorhouses the children are retained perhaps for a few years. But the policy of the Local Government Board has always been to discourage the retention of children in the poorhouses. Both the Majority and the Minority of the Poor Law Commission denounce the "mixed poorhouse" as an unsuitable home for children of any age. The Majority recommended that "effective steps should be taken by the Local Government Board to secure that the maintenance of children in the general poorhouses be no longer recognised as suitable or legitimate treatment of them" (Cd. 4922, p. 139). The statement by Mr Smail shows to what extent this recommendation has been carried out. The Minority wrote: "We are driven to the conclusion not that the Parish Councils are to blame for the unsatisfactory treatment of birth and infancy, but—and here we think that Scottish public opinion will be decisive on our side—that a poorhouse is

under no circumstances a fit place to be born in or for individuals to be reared in" (Cd. 4922, p. 256).

In spite of these recommendations, the conditions of administration make it for the present impossible to keep the poorhouses free of children under five. The reasons are numerous. Children born in the poorhouse are kept until they are fit to go out with the mother, whether the mother is able to take charge of them or they are placed with guardians. Other children may go to the poorhouse with their parents and have to leave when their parents leave. Frequently, the parents belong to the order of "in and out"; they may remain for too short a period to permit of the boarding-out of the children, and, as there is no power to prevent their discharging themselves at any time, they take the children with them. In those cases the poorhouse is a temporary resting-place for the children. There is a small constant stream of such children. It would take too long to analyse all the reasons. But it may be stated that, before the war, the specially built and specially arranged children's pavilions at Stobhill Hospital could accommodate, and occasionally did accommodate, some 500 or 600 children.

In 1906 the number of children boarded-out by Scottish parishes was about 6617. Probably this may be taken as an approximately constant figure. The children pass out of the Poor Law control at fourteen years of age; but many of them keep touch with their guardians. The history of the boarding-out system in Scotland is full of the interest that all great social experiments have. Here I give only a few details to show how it works to-day. Those concerned to study it more closely, with all its limitations and drawbacks, will find abundant material in the Reports by the Majority and Minority of the Poor Law Commission (Cd. 4922), and particularly in the Report by Dr Parsons (Cd. 5075).

Even at the date of the Commission's Reports (1909), the movement towards special provision for children of all ages had made considerable headway. "We need not say how unsatisfactory we consider such a state of things. We agree with nearly all our witnesses in regarding the poorhouse as a wholly unfit place for children. We realise that the Parish Council, as a Poor Law Authority, is almost inevitably driven to use the poorhouse for children who cannot be boarded-out, or for whom no foster-parents have been found, or for whom for some reason temporary provision has to be made. It is

not easy to see how such authorities are even going to avoid this evil. Even when, as at Stobhill Hospital at Glasgow and also at Govan, the children have a separate building, this is still in connection with the poorhouse and the Poor Law; and it cannot be a good thing for these children to be thus immured in a Poor Law institution for years, never going into seaside or country cottages for holidays, never, in fact, seeing the home of everyday life, and never even going beyond the walls which surround the grounds. But we feel that the whole system is wrong under which a child is brought into contact with pauperism at all. We think that public opinion demands that at any rate the children should be altogether 'taken out of the Poor Law' and dealt with not as paupers at all, but as children, by the Local Education Authority" (Minority Report). The new legislation has gone far beyond this recommendation. It has, to at least a certain extent, taken children out of the Poor Law. But the various obligations of the Health Authority and the Poor Law Authority can be fully determined only after some experience of the new Act. That the new Act will make a difference both to the children in the poorhouses and to the children boarded-out is certain; but what form the difference will take it is at present not possible to say with any precision.

The following excerpts from statements by Mr Motion and from a Report by Dr Mary Menzies give a representative view, *first*, of how the largest Scottish parish manages its system of boarding-out, and, *second*, of how the Lady Medical Inspector of the Board, in her official inspection, finds the system working in the localities.

I. Interview with Mr James Motion, Inspector of Poor, Glasgow

Dr Mary Menzies has made the following notes of an interview with Mr Motion, whose experience of Poor Law work in Scotland is unique :—

> "The principle underlying our work" is to attend to pregnant women immediately. Women inspectors look after the expectant mothers and see that they are taken to the Poor Law Hospital. There is a doctor on duty at the office from 10 a.m. until 4.30 p.m.; there is always an officer on duty at night. A medical officer must, if possible, see the case before it is dealt with. The very poorest women apply for attention—mothers of illegitimate children, wastrels, or wives of wastrels. Some have, however, been decent-looking women neglected by their husbands. They usually come at the last moment, and it is not unusual for the birth to take place in a cab on the way to hospital.
>
> Urgent cases are sent to Duke Street Hospital, the less urgent cases are sent to Barnhill. Cases belonging to other parishes are sent on to the respective poorhouses if time permits.
>
> The Maternity Hospital transfers to the Parish Council pauper or destitute cases which they admit, and Glasgow Parish Council accepts liability for maintenance of such cases.

PROVISION UNDER THE POOR LAW

No woman entitled to maternity benefit should receive assistance from the Parish Council, but such cases have to be helped and inquired into.

The average number of illegitimate births in six months is 59, and 29 is the average sent on to the Lock Hospital. The Parish Council pays for the treatment of certain cases. No birth takes place there except in case of emergency.

Diligent inquiry is made in the case of illegitimate births. Every effort is made to follow up the father in order to recover aliment. The fathers are nearly always discovered, and he is simply charged with the paternity of the child by the Criminal Officer of the Parish Council, and seldom denies it. He is then required to pay from 2s. 6d. to 3s. 6d. weekly towards the maintenance of the child. Fathers do not usually disappear.

Care is taken to see that the woman is put in a position to fend for herself, and, if possible, to contribute towards the keep of the child; if the joint aliment obtained from the parents is not sufficient, then the Parish Council makes good the deficiency. The child is boarded out under the Children Act, 1908, usually within a radius of ten or twelve miles of the city of Glasgow, and if the mother's behaviour is satisfactory she may be permitted to visit. These babies boarded-out under the Children Act are visited by a special officer of the Parish Council.

If the child has to be put on the Poor Roll at 4s. or 4s. 6d. per week, an attempt is made to charge the father with full maintenance. If he will not pay, then an attempt is made to obtain from him such reasonable sum as will help the mother.

During the six months ending 15th May 1916 there were 32 admissions and 27 births to the Eastern District Hospital. There were 42 admissions and 15 births to Barnhill Poorhouse. (Of these 42 mothers, 2 were widows, 8 married women, and 32 single.)

"We are learning a great deal more about this sort of thing since war began. We require to save the child."

Many respectable men have no preparation for the coming birth—"not even a sweeler for the bairn"—and run at the last minute for a doctor or midwife.

"Children from birth to five years are primarily treated in the hospital, then boarded out, and later handed over, when necessary and suitable, to their respective parents."

"Some children are attended to if the father is ill or away and the mother is ill."

Deserted, neglected, or cruelly treated children are heard of through inspectors, neighbours, anonymous letters, etc.

It is considered cruelty if a woman refuses to go into the poorhouse and takes a child out at night while singing in the streets, etc.

In these cases the mother is apprehended and taken before the Sheriff; she gets thirty days. The children are generally handed over until they are sixteen years of age.

When a parent has turned over a new leaf, and maintained the improvement, the Parish Council prepares a petition to the Sheriff and asks him to withdraw his Order and allow the children to be handed over to the parent.

An assistant inspector can petition a Justice of the Peace or present a petition to an Infant Protection Court, craving it to grant an Order to have the child taken to a place of safety pending other proceedings.

Mr Motion may, on behalf of the Parish Council, appeal to the Sheriff Court to put a woman on probation—one of the Parish Council officials acting as probation officer.

"We have two men and three women probation officers." No woman without a home is put on probation. A soldier's wife without a home would be helped to get a lodging on the strength of her allowance. In such case Mr Motion would hold the ring paper.

A house might be rented for her. There is no special Probation Home.

Women are given an entire new outfit to enable them to make a start, and this is supposed to be repaid. Sometimes it is repaid and sometimes not.

Alimentation of widows with children. The mothers get sufficient aliment to keep them at home. Five shillings per week is paid in respect of the mother, and sums varying from 3s. 6d. to 5s. each in respect of the children. They have clothing, medical attendance, and freedom from taxes.

Tuberculous children are received at Duke Street Hospital.

Higher Grade mental defectives are sent to Larbert, where about 100 beds are available for Glasgow; others to a home for mental defectives at Woodlee Asylum.

There are children's homes at East Kilbride, 2; Lochburn, 1; Maybole, 1; Shandon, 2; Crookston, 1; Dunoon, 1; Dunclutha, Kirn; Rothesay, Convent School; 2 homes at Ascog, Bute; Lanark.

SCOTTISH MOTHERS AND CHILDREN

II. Report by Dr Mary J. Menzies, Lady Medical Inspector, for Year 1914

Local Government Board,
Edinburgh, 1st February, 1915.

I have the honour to submit, for the information of the Local Government Board, the following report on my inspection of boarded-out children during the year 1914.

In 133 parishes of 14 counties, 1026 homes have been visited, and 1715 children inspected.

County.	Number of Parishes visited.	Number of Homes visited.	Number of Children inspected.
Aberdeen	47	248	390
Argyll	8	92	165
Ayr	5	42	116
Banff	5	84	155
Bute	2	65	130
Dumbarton	8	90	132
Edinburgh	13	115	144
Forfar	10	38	40
Haddington	10	22	26
Inverness	7	117	224
Kincardine	1	2	5
Lanark	9	49	93
Perth	1	9	17
Renfrew	7	53	78
Total	133	1026	1715

The Children.—The general condition of the children depends so much on the treatment meted out to them before being boarded-out that, except when there is a long boarding-out history, it is not alone a good indication of the care and attention given by the guardian. Some, in this respect, compare very favourably with other elementary school children, whilst others show marked evidence of early neglect. It would be distinctly to the advantage of both Parish Council and child if a careful medical examination of each child, with remedial treatment of any defect found, always preceded boarding-out. Arrangements to have this done have now been made by certain Parish Councils. The chief physical defects dealt with were skin diseases, defective eyesight, and marked nasal obstruction.

Homes.—The large parishes select with care. As they deal with large numbers of children, the homes they provide vary in character; in many cases the standard of these is high, whilst undesirable homes are rare. Some of the smaller parishes have excellent homes for their children. There are, one here and one there, a number of homes of too poor a class, to which, owing to various circumstances peculiar to each case, it is difficult to make any specific objection. For the credit of the boarding-out system such homes require to be gradually eliminated. Certain Parish Councils pay too small an aliment and obtain only overcrowded, or otherwise unsatisfactory, homes for their children.

Conditions vary in the counties visited.

In Aberdeenshire there are some rather poor cottar homes. For the most part, however, the homes are in crofts, relatively highly rented, and small farms. The houses have ample accommodation, and are entirely occupied by the household. The crofters themselves are hardy, thrifty, and hard working. The children, although they assist in the work, are usually well nourished, frequently florid of complexion, and appear to be happy.

Similar conditions are seen in the country homes in the adjoining county of Banff, and in the parishes of Inverness and Urquhart and Glenmoriston.

Where visited on the western coast of Inverness and Argyll, the children boarded with the owners of large crofts, or with crofters who have some additional means of livelihood, such as a trade, or a house suitable for summer letting, are in good homes. A few, however, are in homes which are not quite so satisfactory. Where housing is poor, the

croft rent relatively low, and the crofter, from the depressing effect of circumstances and climate on his character, has scarcely enough energy to earn a decent living for himself and his family, potatoes, and possibly salt herring, play too prominent a part in the diet, the children are pale and relatively lacking in vitality.

In the islands of Tiree and Iona, the homes and schools, near rock, sand, and sea, productive of so many interests for children, seem to be situated in ideal surroundings, whilst the apparently good financial position of the crofters is reflected in the condition of the children, who could not be distinguished on general inspection from native children. If there should be comparative poverty it is neither sordid nor squalid.

In Arran, where almost every home was visited, conditions have changed during recent years. The crofters now have well-built houses, let during the summer season, which afford good winter accommodation. There are a few undesirable instances of the children sleeping in outbuildings with servants.

The children appear to be well fed. When inspected in early spring, with the exception of those seen at the last school visited, who were obviously in "Sunday clothes," they were wearing rather ragged outer garments. This seemed to be due to a general desire on the part of the guardians to reserve new clothing for the summer season, in order that the children might appear at their best in that respect whilst under the observation of visitors to the island. That some of the guardians seemed to show reserve to inspection may arise from the fact that Arran has been a boarding-out ground for more than fifty years, and the guardians are well known by the inspectors. This was indicated in a reply given by a guardian, under whose care were some uncleanly (verminous) children: "We have had children for forty years and the inspector knows us well." It also indicates the necessity for inspection even when guardians are well known.

Urban areas of the counties of Banff, Dumbarton, Lanark, and Renfrew provide a number of R.C. homes; some of those in the latter county are of a particularly satisfactory type.

The longer one inspects the more one becomes impressed by the fact that most homes become "home" to the children; that the children become attached to their guardians, whilst the latter acquire an influence in many cases as great as that of parent over child. On this account, and because of possibilities the future may hold, it is of the utmost importance that the children should be placed in the best homes available. In this connection I may mention that one guardian showed me valuable presents, sent to her by children who had been under her care, and stated with pride that one was now earning an annual income of £800.

Some guardians, I fear, regard the children as a source of income, to be fed, housed, kept clean and fit for inspection, and allow their duty to end there. Most guardians, however, fully realise their responsibility towards the children as regards moral training; whilst many guardians seem to be as deeply attached to, and to take as much pleasure in, the children as if they were their own.

Continued abuse of children is unlikely to occur without detection, and the boarding-out system owes much, in this respect, to the interest taken in the children by the teachers of the schools which they attend.

It is very satisfactory to be able to state that only 13 of the 1026 homes inspected were reported to the Board as undesirable; that the children have been transferred from 7 of these, and 5 have been put under observation with a view to obtaining improvement.

In homes in which the sleeping accommodation alone was defective, improvement was in most cases easily obtained. This is a small matter, concerning which there should not be any difficulty. When there is difficulty one may suspect that the home is not, in other respects, quite so satisfactory as it may appear to be.

A few homes were noted for reobservation and reconsideration; from four of the least satisfactory of these the children were removed shortly after the date of my visit by the Inspectors of Poor of the parishes concerned, on their own initiative.

I am of opinion that homes in districts so isolated that there is no local supervision, by inspector, medical officer, or school teacher, are to be regarded as undesirable, and that widowers or unmarried men, with a series of succeeding housekeepers, are to be avoided as guardians.

The few homes I have seen into which the children have been adopted, have been so far from fully satisfactory that, in my opinion, in cases of adoption, the right of inspection and the power to withdraw the child, in the event of the home becoming unsatisfactory, should always be retained.

Clothing.—The boys chargeable to the large parishes are generally very well clad, and to the girls an ample supply of clothing is granted. With regard to the latter, however, one longs to see a simpler and more modern method adopted, such as (1) woollen com-

binations, (2) dark-coloured, washable knickers, for which wincey or serge would be a suitable winter material, with bodice attached, and (3) a one-piece dress.

In many parishes there is still room for improvement in the clothing supply.

Many of the parishes tend to continue their supervision of the children after such have reached the age of fourteen, and, before withdrawing aliment, take into consideration the mental and physical characteristics of the child, giving it such opportunity as it is able to benefit by in order to secure its future. There are children being trained to be dressmakers, shoemakers, and engineers, etc., whilst a few, of exceptional intelligence, are educating themselves for professions. The method followed consists in placing the girl or lad with a suitable guardian and supplementing the wage earned by the amount necessary to meet the cost of board and lodging. Far-seeing Parish Councils are securing such training for physically defective children as will prevent them from becoming a permanent charge on the rates. Where this training is not ensured by the Parish Council a lad, without influence, but desiring independence, may only be able to obtain such partial training as provides irregular employment and leaves him the prey of the sweater.

I am of opinion that it would be desirable to extend the age of parochial control; supervision to be exercised with discretion.

I am still of opinion that more co-operation on the part of city inspectors with inspectors of those country parishes in which they board-out children would be desirable. Where an inspector has been resident in a parish for many years he must be well informed with regard to the character of the homes within his district. I am told from time to time that children are placed in homes into which a local inspector would never put children. In some of these parishes, however, the homes in which children chargeable to the parish of residence are boarded are inferior, from the inspection point of view, to those in which are placed children from outside parishes.

Within the county of Inverness and within the island of Arran there are 20 and 19 parishes respectively boarding-out children. The manner in which some guardians change from parish to parish, and sometimes have children from more than one parish under their care at one time, and the position the guardian thus obtains in the boarding-out system, detracts from the power of control on the part of the boarding-out parishes. The opinion I have formed whilst inspecting is that the presence of children from so many outside parishes within one district is to be deprecated, it not being to the advantage of the boarding-out system.

In conclusion, I desire to express my appreciation of the courtesy and assistance received from the Inspectors of Poor of the districts visited.

5. *Conclusion.*—How long the Poor Law system of maternity and child welfare may continue on its present lines will depend, at least to a certain degree, on the nature and extent of the general reforms in medical service. It will also depend on the administrative development of the powers of the recent legislation. At the present time several movements are converging on the problems of maternity and childhood. There is a struggle among policies. The present drift is towards an increase of the obligations of the Health Authority.

CHAPTER VI

PROVISION FOR THE UNMARRIED MOTHER

1. *Grades of Unmarried Mothers.*—The facts of the last chapter show within what narrow limits the Poor Law has to work. Yet, even within those limits, such differences of individual character reveal themselves that Poor Law officers declare, with striking unanimity, that for many unmarried mothers the least suitable place is the poorhouse. Their experience reveals something that demands a different method of treatment; and their experience is confirmed by the emphatic deliverances of the Majority and Minority of the Poor Law Commission. Provisionally, these deliverances may be taken as final; for they rest on the most extended survey of Poor Law administration that has ever been made in this country.

The real roots of these strong views it would be very difficult to trace. Superficially, the Poor Law appears to have been instituted just to provide for those that could not provide for themselves; yet, in the course of its evolution, it has come to be shunned rather than sought by many of those that have an unquestionable claim on its powers. In the case of the unmarried mother the insufficiency of our present Poor Law is demonstrated and accepted. That fact we may take as our present datum line.

In this powerfully supported conclusion, the essential point, it seems to me, is that the system does not provide for the individual treatment of each mother on her merits as a person. The whole system is conditioned by restrictions that tend to mistake the essential necessity, namely, the need of the mother for particular care before her confinement, for special accommodation and skilled superintendence throughout the confinement, and for skilled supervision after it. That necessity is as real in the unmarried mother as in the married mother. In theory, the Poor Law recognises this; but in practice, the unmarried mother does not. Consequently, other provision has to be made.

From the record we have of some other institutions provided, we gather that the views of some Poor Law officers are fully reflected

by the non-official workers. It is accepted that the unmarried mother may vary in grade from a casual and socially irresponsible person to a mother living with the father of their children and married in everything but name. Between these extremes lie an undefined number of other grades, which, from no standpoint, can be regarded as all to be tested by a single test. But this is only another way of saying that the problem of the unmarried mother is one of profound social intricacy, and, like so many problems in the flow of social growth, is not even partially solved.

These differences of grade among unmarried mothers probably depend on the differing types of industrial life. But in this field of sociological research it is very difficult to find precise facts. From official sources I know that in many cases in the west of Scotland applicants for increased poor relief have been found staying with the father of their children and showing nothing in their conduct to differentiate them from the other mothers of families in the particular community. How far this custom prevails I cannot tell; but I have known repeated instances of it. Then, in certain southern rural counties, I have found that the sentiment towards the unmarried mother, whether living with the father of her children or not, was of an entirely different quality from the sentiment common in the north-east of Scotland. Yet in both places, the south-west and the north-east, the unmarried mothers were a considerable fraction of society. Whether it be that Scottish marriage customs have left these many varieties behind them, or whether it be that economic causes favour the less formal unions, I have no means of determining; but in any social estimate of unmarried motherhood these facts force themselves upon us. Probably hundreds of children that have to be registered as technically illegitimate are the progeny of such unions as these. This is not a matter of conjecture. In his Report for 1914 Professor Matthew Hay writes: "Stated as births per thousand unmarried and widowed women of child-bearing ages, fifteen to forty-five years, Aberdeen was, with 16·6, most emphatically the highest of the four principal towns; Dundee coming next with 14·2, Glasgow with 12·7, and Edinburgh with 8·6. The unfortunate position of Aberdeen in respect of illegitimate births is in part explained, although not excused, by the fact that in a not inconsiderable number of cases the mother is living in cohabitation with the father of her child, and the nature and permanency of the cohabitation

are almost equivalent to those of marriage." In his Report for 1915 he writes: "As in the preceding year, Aberdeen had the highest proportion of illegitimate births. Aberdeen and Edinburgh were the only towns among those compared that show an increase since the preceding year. Stated in proportion to the unmarried women and widows between the ages of fifteen and forty-five, Aberdeen stood much higher than any other town, with 15·6 per thousand of such women; the next highest being Greenock with 11·0, and the lowest being Paisley with 7·9." The corrected numbers in each of these two years were 377 and 380 illegitimate births. Doubtless other parts of Scotland would furnish many illustrations of the same sort; but my present point is that the unmarried mother is not to be taken as one defined social species. To regard her as a single species is the inevitable tendency of all administrative systems. But I am persuaded that, if any headway is to be made in the provision for the unmarried mother, the first step is a frank and detailed recognition of the fact that each individual mother must be treated as an individual person, not as a branded social species.

Probably it is this conviction that has, more or less consciously, generated and sustained the voluntary institutions for the care of unmarried mothers. The humane persons that have founded those homes show by many minor indications that they make and intend to make individual distinctions. The process of administration no doubt demands some rough classification, and we find persons of the "servant" class counting for a good deal in the lists. But it would be well to differentiate even within the servant class, which is not a homogeneous group in any Scottish community. Personally, I should prefer to see a type of institution where the principles of individual study were applied in detail. The kind of study I mean is fully illustrated from another point of view by the volume on *The Individual Delinquent: a Text-Book of Diagnosis and Prognosis for all concerned in understanding Offenders*, by Dr William Healy, Chicago. But, to a large extent, the institutions mentioned below do fulfil the conditions that should determine the study of the individual.

2. *Provision in Edinburgh.*—As indicated in the last chapter, there are several private homes in Edinburgh where unmarried mothers are accommodated in their confinement. But those referred

to are only the homes known to the Parish Council. There are probably many others. Neither of the known private homes nor of the unknown can we speak with any definiteness. But there are three more or less public institutions that have been visited by Dr Mary Menzies and Miss Ireland. All three work in concert with the Maternity Hospital. As these institutions perform a function of the first social and ethical value, they are here described with some detail.

(1) The Lauriston Home

Visited 12th May 1916 by Dr Menzies and Miss Ireland.

Established in 19 Graham Street in 1899, and transferred to 118 Lauriston Place in 1905; it is controlled by a committee of management of nineteen members, assisted by an honorary secretary and honorary treasurer. The medical staff consists of an honorary consulting physician and honorary visiting physician. It is supported by voluntary contributions and donations.

The funds at 31st December 1914 were £290, 13s. 5d. The income for the year ending 31st December 1915, consisting of subscriptions, interest, and donations from the Parish Council and the Magistrates and Council of city of Edinburgh, was £303, 2s. 1d.

The expenditure for the same period on the Home was	£258 19 0
Expenses of management were	30 13 1
Total expenditure	£289 12 1

The Home was established for the purpose of providing a temporary shelter for young unmarried girls about to become mothers for the first time, as it was considered inadvisable, both in the interests of the mother and the child, that such should go into a Poor Law institution. The Home is not for the destitute, but, in a few cases, where the girls have been improvident, their penniless condition has not prevented their admission to the Home.

The fee is 5s. per week, and the necessary weekly payment in necessitous cases has been made by some charitable person interested in the Home.

The girls may be admitted from the sixth month of pregnancy onwards, but the majority of the girls apply for admission about two months before the confinement is expected. The girls apply for admission when they are unable to continue employment or are dismissed by their employers. For the confinement the girls go to the Maternity Hospital, where they are retained for not less than ten days, and from the Maternity Hospital they may return with their infants to this Home and remain fourteen days. They may go to the Infants' Edinburgh Home if they sign an agreement to stay for two months in the Home.

While this Home feeds the Maternity Hospital, and the Infants' Edinburgh Home takes the mothers for prolonged convalescence, there is a marked gap left. Many of the girls feel that they would like to be at work as soon as they are fit, and, moreover, have no money wherewith to pay for their maintenance in the Home. They, therefore, do not wish to sign an agreement to remain in the Infants' Edinburgh Home for two months. These girls are in a terrible plight; for while they have the babies in their arms they cannot find work, and they have no home to go to. For this reason the committee is making an attempt to obtain increased accommodation, and hopes to transfer the Home to a larger house in Lauriston Gardens. There, it is probable, a larger number of girls can be accommodated after the birth of their children, until they can make suitable arrangements for the infant and obtain work. It is often impossible for girls to go to the Infants' Edinburgh Home, since their funds are exhausted after paying the Lauriston Home fee. Every effort is made to return the girls to their homes and to persuade the relatives to take charge of the baby. The matron says she has frequently been successful in persuading the near relatives to take the child. A few, but only very few, marry the father of the child.

The matron has found boarding-out very unsatisfactory. In many cases of adoption, where a fee has been paid down (not infrequently the only provision the father will make), the foster-parent has, after a time, returned the child to the mother, and the girl has not been able to recover any part of the fee.

The matron tries to keep some supervision over the boarded-out homes.

The visit to this Home and the subsequent visit to the Shelter seemed to bring out the fact that for certain unmarried mothers there was an acute need for suitable homes

(other than the poorhouse) in which illegitimate babies could be kept for such a small sum of money as the mother could pay, or free of charge.

About 50 per cent. of the girls are under twenty years, and the Home has had one girl as young as thirteen. The matron seems to think that the characters of the girls show a lack of balance. A large proportion of the girls are general servants; but teachers, nurses, clerkesses, cooks, and housemaids occasionally are admitted.

The house is a double top flat and has accommodation for ten girls. On the first floor are the matron's sitting-room, a day-room, a kitchen. On the upper floor there are two dormitories with clothes' lockers; one contains three beds and the other contains seven beds. There are also on this floor two staff bedrooms. The house has the necessary lavatory provision.

The staff consists of the matron, who has been in the Home for fourteen years. She is a past school teacher. Her sister, who receives no salary, does relief work. A woman who passed through the Home cleans the stair at a wage of £5 per annum.

The medical staff consists of a consulting physician and a visiting physician.

"The making of baby clothes, sold at a very cheap rate to the girls themselves, is found an excellent means of employment. It is impossible to carry on any industry that would supplement our income, as the girls' health does not admit of a steady output and their stay varies so much in length. With regard to the boarding-out of infants, it may be noted that the Act for inspection of such continues to make relations more willing to take the children home, as foster-mothers are not now so easily found, and thus the Act encourages what is much better than boarding-out."

In 1915 "it was found impossible to accommodate all who applied, as in the spring and early summer the number exceeded the available accommodation; whereas in August and September comparatively few asked to be taken in. As a result there have been 57 cases this year, as against 76 in 1914. We note with satisfaction that neither this year nor last has our work given us any proof that the war has caused an increase in illegitimacy.

"The youth of some of the cases is greatly to be deplored, two being only fourteen and one fifteen, while nearly one-half were under twenty, only five being thirty or over. Prevention would be so much better than cure, and early training in right ways of thought and conduct for both sexes will always be the only real barrier against this tide of evil.

"Girls come to the Home from all parts of the country—such as Berwick, Falkirk, Perth, Pitlochry, Kirkcaldy, Leslie, Glasgow, Keswick, Dunbar, Lochgelly, Oban, etc.; these were sent mostly by doctors. Friendless girls applying without references have been taken from Edinburgh after personal interviews.

"Almost all have been of the respectable working-class, and four who were well educated were intensely depressed, but recovered after the birth of the child, and have been very grateful for the wholesome sheltering atmosphere that did so much to help them.

"Payments have been regular this year, this being the first time we have been able to record no failures in that direction.

"It has been possible for a small number of mothers with infants to return to the Lauriston Home for a few days from the Maternity Hospital before going to their own homes. We can only accommodate one at a time.

"The committee regret that larger numbers have not availed themselves of the great advantage offered by the Admiral Terrace Home, but realise that most girls have very little money left after the birth of their child. The mothers feel in consequence that they must get to work and make some money as soon as possible, not fully realising the inestimable value to the child's health when the mother can give it two months' nursing.

"In most cases, mothers with infants are taken back by their own relatives, which is, of course, the normal solution of the difficulty.

"The committee have sometimes heard it said that girls in such homes as this should not have too much done for them, lest the penalty of wrongdoing be lightened and sin made easier. That all frivolity of thought regarding so great a responsibility as bringing a child into the world should be carefully avoided, goes without saying. But frivolous paternity is much more frequent than light-hearted maternity, by the very apportionment of the burden to be borne and the shame to be faced. It is therefore much more needful to make the fathers of such children view their offence severely, and to enable the mothers to meet the sorrow that is their portion with a steady balance of mind and body beneficial to their child, and more likely to produce real amendment than hysterical penitence" (*Annual Report*, 1915).

(2) The Infants' Edinburgh Home

Visited on 16th May 1916 by Mrs Leslie Mackenzie, Dr Menzies, and Miss Ireland.

It was established three years ago at the suggestion of Dr Dingwall Fordyce, and is managed by a committee of eleven men and nine women, five of which form an executive committee, assisted by an honorary secretary and an honorary treasurer.

It is supported by voluntary contributions and donations, and by inmates' fees. For the year ending 30th October 1915 the income was £229, 15s. 9d.; the expenditure was £342, 2s. 4½d.

There was, therefore, a deficit for the year of £112, 6s. 7½d., which, with a deficit of £235, 3s. 3½d., had to be met out of the Capital Fund, which was thereby reduced to £31, 9s. 2d.

The aim is :—

(1) To help young girls to recover from the strain of pregnancy and to nurse their babies for a period of two months or more, thus giving the babies a chance to grow up strong and healthy.

(2) To assist these girls by finding suitable employment for them, and suitable boarding-out homes for their infants.

(3) To trace the fathers, and, if possible, compel them to contribute to the support of the children.

There is accommodation for seven mothers with their infants and for four motherless babies.

Girls have been sent to the Home from Lauriston Home, from the Maternity Hospital, and also by their employers and by visitors to the Maternity Hospital.

Difficulty is experienced in placing the girls in employment when they leave the Home, partly because of lack of training, lack of outfit, the friendlessness of the girls. The outfit is a most serious difficulty. During the year ending 31st October 1915, 24 girls passed through the Home, and their ages ranged from sixteen to thirty-seven. Of these 24 girls, 6 had no homes and 3 came from bad homes. Their employments were: domestic service, 17; factory girls, 4; laundry worker, 1; field worker, 1: clerkess, 1.

Of the 18 babies left in the Home, 4 went to relatives; 8 were boarded-out; 3 were adopted; 3 were delicate and died in hospital.

The matron said that there is abundant evidence that the adopted babies thrive better than the boarded-out ones. Since the Home was opened 18 babies have been adopted into good homes without premium.

The average number of mothers resident in the Home is five. Each girl is supposed, on admission, to sign an agreement to remain two months; a few exceptions to this have been made. If a mother has remained three months in the Home, and is able to make a weekly payment of 5s., she may leave her baby in the Home until it is a year old. She may return to visit the child at any time, and may even return to the Home for a short holiday.

The fees charged: 5s. per week for mother and child for the first two weeks, 3s. 6d. per week thereafter. The fees are not always easy to obtain.

The staff consists of the matron, who has been in office three months, and two probationers. The probationers receive board and laundry in return for their services.

The health of the mothers and babies is said to be good. The medical service is voluntary. There is no diet sheet for the infants. For bottle-fed babies all milk is sterilised in the bottles by boiling for twenty-four minutes. Teats are kept in labelled jugs. Dummy teats are not allowed. Regular habits are taught.

The building consists of a house, with a grass plot in front, a small garden behind. It faces west, and the larger nurseries have a western outlook.

On the ground floor are the room used as a day-nursery and mothers' sitting-room, which is well lighted and can be well ventilated by a large window of the sash type; it is heated by a gas fire; the walls are papered, and the floor covered with linoleum. There are eight basket cots in this room. There are also a good milk-room, a perambulator-room, and a matron's sitting-room.

On the first floor are two dormitories, one containing five beds and three cribs, the other, two beds; well lighted and ventilated; the floor covered with linoleum; open fire; bathroom; matron's sitting-room.

On the second floor are the night nursery, for babies whose mothers are not residing in the Home; it contains four cots and two cribs (one of the probationers sleeps, on duty, in this room); the probationers' bedrooms.

In the basement are kitchens and other domestic accommodation.

The furnishings and the bedding are suitable in quality and quantity.

PROVISION FOR THE UNMARRIED MOTHER

(3) Salvation Army Hostel

On 9th May 1916 Dr Menzies and Miss Ireland visited the Women's Hostel, the Vennel, Grassmarket, which is conducted under the auspices of the Salvation Army. It was opened four years ago, and has three main departments—a Rescue Home, a Boarding-house for respectable working girls, and a Common Lodging-house. The building was originally a church, was reconstructed later and used as Salvation Army barracks; then further reconstructed to render it suitable for its present purpose.

The Hostel is substantially built, has stone stairs, tiled walls in the lobbies, electric light, and central heating. There is a small yard for drying clothes, and the women are granted the use of the Outlook Tower Open Space adjoining. The room floors are all of wood and the walls are painted.

From the Report of year 1913–1914, for Edinburgh, it is apparent that the Common Lodging-house was almost fully occupied, but that on an average only about four beds per night of the 6d. temporary beds for girls were occupied.

Of the girls admitted 15 were sent to infirmaries.
" " 14 " situations.
" " 15 " friends.

From these statistics it does not appear as if the full advantage was, at that date, taken of the accommodation and opportunities offered.

In ordinary times there are 16 resident Salvation Army workers; at present there are 12, and 3 paid house servants. These servants are girls or women who have passed through the Home.

The staff are accommodated on the top floor. There are staff sitting-rooms, bedrooms, and bathroom, and a private kitchen, etc.

The Rescue Home has a total accommodation for 25 girls. Some of these girls are simply homeless, others have been leading irregular lives and have made undesirable friends, others are pregnant girls. If they are able, they or their friends must pay 5s. per week. The payment is not essential to admission.

Sources.—The Salvation Army officer may find the girl homeless, some girls come from the Parish Council, some from the Maternity Hospital, and some from the Police Court on probation, or are recommended by private persons, etc., whilst others are recommended by letter.

A certain number of pregnant girls come from country places by arrangement with the relatives. There are usually from four to six pregnant girls and from three to six mothers with their babies in the Home at one time.

The pregnant girls are, for the most part, general servants; there are a few upper servants, a few factory girls, and a few outworkers sent in from the country included in their number. They may be admitted to the Home some weeks before their confinement, sent to the Hospital for confinement, and re-admitted ten days after the birth of the baby. Occasionally a marriage is arranged between the girl and the father of her child. The father is, however, rarely traced, and owing to lack of affiliation facilities, in which Edinburgh appears to differ from London, aliment is seldom obtained from that parent. The Salvation Army officials encourage the girl to shoulder her responsibility, and to board-out her child rather than to give it over in adoption. The girls are helped into situations, and the mistress is charged a registration fee of 2s. 6d., but no charge is made to the girl.

Whilst in the Rescue Home the girls help to maintain themselves by making up undergarments and children's clothing, which the officials sell. They do not go out alone, but in charge of an officer. They attend the Army services on Sunday.

By Brigadier Simmons: "There is a great need for a home for mothers and babies. There is none in Scotland under Salvation Army organisation. The girls must be kept for a longer period in a home if permanent results are to be obtained."

The special accommodation provided for these girls consists of a day-room in which they sew, dine, and live generally; and, separated from this by a wooden partition, a nursery containing eight beds and two cribs occupied by nursing mothers and babies. There is a dormitory containing fifteen beds, in which the non-pregnant girls sleep; whilst the girls advanced in pregnancy sleep in cubicles. There is a bathroom, with a separate washing-place, in which each girl keeps her towel.

The babies are generally boarded-out when the mothers return to work. A Salvation Army officer visits the homes in which the babies are boarded and keeps them under supervision.

In the Home the babies are breast-fed by the mothers under instructions. No long tube-bottles are used, and seldom dummy teats. The nursery is under the supervision of an officer with some knowledge of the rearing of babies.

3. *Provision in Glasgow.*—In Glasgow, as in Edinburgh, there are several "Rescue Homes." Of these, though unvisited, we have received some information; but they are concerned largely with work that lies without the natural scope of our inquiry. Incidentally, the mere variety of institutions confirms the view that the unmarried mother does not, in any real sense, belong to a "class" by herself.

In Glasgow too, as in Edinburgh, there is a large number of private lying-in houses. But we have little definite knowledge of them. They are of the same order as those referred to in the last chapter, namely, the lying-in houses reported to the Parish Councils. Mr Smail writes: "One difficulty that has hitherto troubled Parish Councils is that of the control of private nursing homes for illegitimate confinements. The operations conducted there have not been subject to any official control, and without doubt abuses have arisen. The powers conferred under Part I. of the Children Act were not sufficiently wide to enable Parish Councils to gain admission for purposes of inspection."

In his *Annual Report for* 1913, Dr Chalmers, Medical Officer of Health of Glasgow, wrote as follows:—"Reference has been made in previous years to the existence in the city of a number of private lying-in houses. During 1913, births, numbering in all 150, were recorded in thirty of these. Most of these children are illegitimate, and immediately after birth are handed over to the care of foster-parents. All such births are reported to the Parish Authorities, who keep careful supervision over the children. The question arises, however, whether these houses should not be registered and placed under supervision."

Two Glasgow institutions devote themselves to the special work of providing for the unmarried mother. Of these, one is the Church of Scotland Maternity Home; the other, the Glasgow Home for Deserted Mothers. At my request, the Rev. Dr Watson has furnished a statement of the intentions and work of the Home, established under the Social Work Committee of the Church of Scotland. Dr Watson's work as a social investigator, particularly into the facts of the lodging-houses and farmed-out houses, is too well known to need more than a reference. From a laborious and informed experience, he has cquired a very extended knowledge of the social life of Glasgow. He confirms the view that the unmarried mothers are to be treated, not as mere members of a single species, but as individual human

persons. The statement he has made, perhaps on too small a scale, shows how much good work can be done when insight and sympathy come together. One special point in Dr Watson's statement it is impossible to overestimate, namely, his insistence on the value of keeping together the mother and her child. The other homes I have mentioned tend in some degree to do this ; but, with Dr Watson, the keeping of mother and child together is a cardinal point of social policy. More than once in this Report I have indicated that the separation of mother and child is, at the best, a distressing necessity ; at the worst, it is a crime. Yet in some of the organisations that deal both with the married and the unmarried the separation of the child from the mother is the first resort, not the last.

There are, no doubt, conditions when separation is the real and the only immediate remedy. None the less, one welcomes the effort to preserve the union of child and mother. It is here that the study of individual personality counts for everything. It is from this standpoint that I regard Dr Watson's statement as of the highest order. It is strongly supported by other observers.

(1) Notes on Church of Scotland Maternity Home, Glasgow

This Home is part of the organisation of the Church of Scotland Social Work Committee, of which the Master of Polwarth is convener and the Rev. Dr Watson is vice-convener.

The convener of the Home is Lady MacInnes Shaw, and the hon. secretary is Mrs George L. Bisset.

It is a small Home, accommodating six girls. The object of the Home is to provide a temporary residence for respectable girls who have been led astray, and are about to become mothers for the first time. The matron, who is a qualified maternity nurse, exercises a careful and kindly supervision over the inmates, and, by her sympathy and skill, has greatly helped in this good work.

The Home was opened two years ago, in April 1915, and since then 29 girls have been admitted and 29 babies—17 males and 12 females—have been born. Of these, 22 have been taken home, 2 have been adopted, 2 have been put out to nurse, 2 died, and 1 was stillborn.

The girls were all of a respectable class. Their occupations were as follows :—Domestic servants, 18 ; shop girls, 4 ; munition workers, 4 ; clerkess, 1 ; saleswoman, 1 ; car driver, 1.

The two specially gratifying features are (1) only 2 babies died, and (2) 22 of the babies are still with the mothers.

One of our aims is to prevent the separation of mother and child, believing as we do that it is good for both to keep them together. The child thrives better, and the presence of the child is an important factor in safeguarding, steadying, and strengthening the mother. Only in the last resort do we advise adoption or nursing out. Our experience is that while before the birth nearly every girl speaks of having her child adopted, after the birth, when the mother's love awakes, practically every girl desires to keep her child. We deliberately aim at fostering this desire. As a matter of fact, only one girl of our twenty-nine, an Irish girl, persisted in her wish to get rid of her baby, and I am not surprised to hear (as I did to-day) that she is living a life of enjoyment, frequenting theatres, etc. One girl who parted with her child took it back at the end of a week. She was utterly miserable and could not live without it. She could neither eat nor sleep. That same girl went home to the Highlands, and bravely "faced the music." In many cases mother and child have been taken home by parents who had previously shut the door in their daughter's face. We frequently accomplish these reconciliations. In other cases, where the parents

remain obdurate, a relative has kindly taken the child, and free and constant access is granted to the mother. In a few cases the girl has been allowed to take her child with her to a situation in domestic service.

On the whole, we feel that this Home is rendering national service of the finest kind, especially in these days when infant life has become so precious. The influence upon the mothers has also been most gratifying.

"I can confidently say," writes the convener, "that every girl who has been with us has left the Home a better and finer woman than when she entered it."

(2) The Glasgow Home for Deserted Mothers

The Glasgow Home for Deserted Mothers was established to supply the want of temporary shelter and maintenance for destitute and homeless mothers and their helpless infants. . . . The promoters of this charity desire to receive those only who, for the first time, have been led astray, and at the same time to exercise vigilant and kindly supervision of them and their innocent offspring. The promoters entertain the hope that the Home will, in any small degree, prove instrumental in preventing vice and crime, and that it will, to a certain extent, lessen the work of the Magdalene Institution and, at the same time, supersede the necessity for a Foundling Hospital (*Fortieth Report*, 1915).

The inmates are allowed to reside in the Home so long as the directors deem expedient. The infants, as soon as possible, are placed under the care of proper and trustworthy nurses, and every effort made to procure suitable situations for the mothers.

The mothers are expected (except under peculiar and exceptional circumstances) to defray all necessary expenses connected with the rearing and upbringing of their children.

The Home is managed by a committee of ladies, assisted by a board of gentlemen. The general superintendence of the Home is entrusted to a matron.

Rules and Regulations

1. All applicants for admission must undergo an examination by the medical attendants.
2. Only those who are mothers for the *first time* are eligible for admission.
3. Mothers after leaving the Home, while their children are under the care of nurses, are expected to report themselves from time to time to the matron.
4. The inmates must conform to the rules and regulations of the Home.

In the year 1915, 171 girls passed through the Home, taking into account their admission before going to the Maternity Hospital and re-admission upon their return. The Home provided 88 situations. During the year several babies were adopted. Several girls were married after leaving the Home. On payment of sums ranging from 5s. upwards a week the girls are admitted to the Home for a period preceding their confinement.

4. *A New Home for Children, Midlothian.*—Incidentally, we have learned of various homes in other towns or small towns. But as it is impossible to give an exhaustive account of such institutions, I select the following case as an illustration. It is a small home, and provides only for the children; but it has sprung from the spontaneous goodwill of persons impressed with the need for institutions of the kind. Its correct place is, perhaps, in the next chapter; but it may be mentioned in the sequence here.

In January 1917 the Home was opened, a suitable house with garden at —— having been secured. The committee were fortunate in securing the services of a highly trained and efficient matron. The rest of the staff consists of a trained nursery nurse, an untrained nurse, and a working housekeeper. There are at present in the Home seven children under a year, a boy of two years, and a girl of three years. The number of children is limited to ten, so as to preserve the atmosphere of a home as distinct from an institution, and the committee's intention is to be responsible for the children till they are old enough to be self-supporting. The Home is mainly supported by voluntary contributions,

but in most cases the parents or guardians of the children pay a small weekly sum for maintenance, according to their ability. Parents or guardians may visit their children on the first Saturday of each month. The fact that enough applications for admission have been made to have filled a dozen similar homes, if means had been forthcoming to open them, speaks for itself, and shows the crying need that exists.

5. *A Few Notes on Personal Histories.*—It is not easy to convey a real impression of the many sources that feed these maternity homes. To do that would require a detailed study of a multitude of individual cases. Like the incidence of death, entry to a home or hospital is the end of a long history; but it tells little to make the history intelligible. Yet I feel that only a persistent analysis of the social causes that lead the unmarried expectant mothers to the maternity homes makes possible any hope of discovering by what methods they may be saved from that necessity. Dr Ernest Watt, Medical Inspector under the Local Government Board for Scotland, has collected information on a series of cases in one of the large cities. His notes are built up partly from direct knowledge, partly from the descriptions of an experienced social worker who has studied and helped a very large number of young women.

The excerpts from the notes illustrate many social relationships of the unmarried mother. They show, as so many of the other facts do, that, whatever be the best solution for the unmarried mother, to make her an outcast is no solution at all. To be effective, any provision for her welfare must rest on the presupposition that, first and last, she is a mother with a child.

EXCERPTS FROM CASES COLLECTED BY ERNEST WATT, ESQ., M.D., D.Sc.

There is a certain (and small) percentage who, this social worker finds, cannot be easily influenced. These women come in large measure from the farmed-out house, the principle of which, in this connection, she indicts very severely. The condition of the majority of the mothers, however, of illegitimate infants, she believes, can be improved—with concurrent benefit to the infant—if action is taken along certain lines. Her procedure is to try if possible to get the mother and child restored to her parent's home. In some cases that can be done immediately on discharge. In a great many some time necessarily elapses, due to different causes, such as fear of resentment, shame, etc., on going home, the impulse to hide the occurrence from parent, friends, or it may be the influence of companions. The first thought of a mother so situated is to get rid of the infant, with a willingness, if allowed, to board it out with the first foster-mother that can be found. On the assumption that this last tendency is a temporary one and will in time be displaced by the true maternal instinct to care for the child, every effort is made so to circumstance the mother that such instinct will be fostered. The following cases bring out some interesting features in connection with the success of this worker in inducing mothers to return to their own homes.

(1) A single woman, aged 21, was confined of her first child. At the time when she was due for leaving her first impulse was to shun her home and throw herself upon the tender mercies of the putative father's mother. Accordingly she sent a wire to the latter asking if she could take the baby. No reply was forthcoming, and for a time, and after much persuasion, she and the infant were accommodated in one of the Parish Council hospitals. In the meantime she got into touch with her own mother, who agreed to take

her and the infant home. In a letter the grandmother afterwards wrote: ". . . I am going to keep the baby, and the mother is going to a place after she is a bit stronger. I may also tell you that the baby is getting on lovely."

(2) A single woman, aged 22, was confined of her first child. Her home was in the North of Scotland, and early in her pregnancy she left a married sister's house in one of the industrial centres to "get married" to the putative father. That event did not come off, and she went to work instead. In consequence of these circumstances there was a hiatus in her correspondence home, and after the birth of the child she refused to allow a message to be sent there. Ultimately, however, permission was given to write to her mother, and arrangements were made for her going home. In the meantime she and her infant were accommodated in one of the homes. She went home with the child and in a letter she wrote: ". . . Baby has got on very well and has grown a good bit. . . . The first thing she will be thinking about now will be getting her teeth. . . . I am very glad I took your advice and went home after all. I have got on better with father than I expected. He will keep the baby for a while in the first place. Mother thinks baby is very lively and sensible. . . ." After six months at home she returned to the city, leaving the baby with the grandparents, and has again gone into lodgings in —— Home, and goes out to work. She continues to take a great interest in her child and sends money home to assist her mother.

(3) A single woman, aged 21, was confined. After discharge she went to her father's home with the infant. My informant learned that she was likely to marry the putative father, and arranged for the Voluntary Health Visitors' Association to keep in touch with her. That was done, and it is anticipated that the marriage will take place, whereby separation allowance (putative father in the Army) will be available. In that way the mother will be able to devote her whole energies to the child.

(4) A single woman, aged 22, went home on discharge. The putative father now grants an allowance to the mother. In a letter the mother writes: ". . . As regards baby, I am still nursing him myself, and hope to have him beside me always now. He is keeping very well, and I trust he will continue to do so." The mother lately called upon my informant on her way to the recent Child Welfare Exhibition in the city; my informant had sent her a printed notice.

(5) Single woman, aged 25, confined of first child. Worked in a shop prior to admission. She explained that until shortly before admission (she was living at home) she had not informed her mother of the condition. After discharge she and the baby went home. At an interview with my informant she explained that her people are more reconciled than she had expected. She seemed happy and fond of her baby. At first her mother wanted the baby adopted. Now she is at work near home and thus feels that she is close to the baby, but it is being artificially fed. This mother states that she would not marry the putative father for anything—a fairly common experience, according to my informant.

The following instance is one where the mother and her child were taken in by a previous mistress:—

(6) An unmarried female, aged 32, was delivered of a male infant. Previous to admission she was in domestic service in a small town. After her discharge her former mistress took back the mother and her infant. Since then the mother has kept in touch with my informant, and the following extracts from her letters are of interest: ". . . I'm very pleased to inform you that baby is improving every day. He has gained two and a half pounds in the month. Nurse weighed him when he was a month old, so that was the result. Baby was seven and a half pounds when born. . . ." In a later letter she says, ". . . I am keeping quite well and also baby. He is getting a fine big boy. He was two months old last Sunday by the day but yesterday (Friday) by the date. He now weighs 14 lbs., in fact a little over it. I shortened him when he was seven weeks old, as he looked too big for long robes, and I must say he is a lot easier to work with now. He looks much better since I shortened him. . . . I've just received my benefit money (by that I mean the thirty shillings) to-day, so I've just posted on the ten shillings to the Treasurer, and I trust he gets it all right, which I promised to give for the kindness shown to me while in the institution." In a still more recent letter the mother writes: ". . . I have had a very bad cold for some time now. . . . As regards baby, he has been very ill with 'Bronchest' and we had to call in the doctor, as he could not get breathing freely, poor little chap, you would have been sorry for him. . . . I am very glad to say he is a good deal better now. I would have written to you ere this time, but I wanted to wait just a little longer, so as I could give you better news about baby. I have got him vaccinated, and glad his arm is all right, and had no trouble with him. He is a very good-natured baby, and I think that has a good lot to do with a baby when his arm has been done."

From the above it is obvious that her baby occupies a considerable proportion of this mother's horizon, and in a note my informant remarks, "Happy result of being able to keep her baby with her."

(7) There is a class, however, where the mother's parents do not desire that the infant should be kept at home. Thus a woman, aged 21, had an illegitimate child. Her home was at a considerable distance and was rather better class. She herself was well educated and was one of a family of eight girls and five boys. This mother wanted to keep her child, but her family advised against that, and under the pressure of their opinion she applied to the Inspector of Poor as to a foster-mother. He gave her the name of a woman willing to adopt an infant for a premium, but as she desired an older infant the transaction did not come off. After advertising, several offers were received, and when the infant was about three weeks old it was adopted, and the mother obtained work about a fortnight later. All this time my informant was able to keep in close touch with her, and is still doing so; in fact, she was able to suggest suitable lodgings when she had had cause to change.

Here we have an instance where, had a little encouragement been forthcoming from home, this girl's desire herself to bring up the infant would have materialised. Now she is practically thrown on her own resources and must always have the worry of a mother with strong natural affections for her child, yet compelled to separate from it. Concurrently the infant is deprived of its natural food, and may swell the already too large ranks of those that go to make a high illegitimate infantile mortality-rate, or, short of that, be handicapped in the struggle for existence.

(8) A single woman, aged 19, was confined of her first child. She admitted that in the earlier part of her pregnancy she had been in a "sort of nursing home" on behalf of the putative father to try and "get rid of it." Also that only her brother at first knew of her condition, and that an infant had been born. Her parents live some distance away, and she stated that "she could not return home," and that her object was to get the child adopted. For a few days she was accommodated in the —— Lodging-house and an advertisement inserted for a foster-mother. On learning that she was there the parents removed both mother and child, and the former has now returned to the city, while the latter has been placed with a foster-parent. It was disappointing to my informant that the parents themselves encouraged this mother so to dispose of her child.

(9) The following depicts a mother who dreaded reprisals on the part of her parents, and where my informant failed to induce her to open up correspondence with them:—Single woman, aged 22. She left her home in Ireland as she "knew she was pregnant," and feared that her father "would kill her" if he knew. She came to service in the city, and after discharge went with the infant to a friend's house, who, however, could not continue to harbour them, as she herself soon expected to be confined. All efforts to induce the mother to communicate with her parents failed, and ultimately the infant was farmed-out, while she herself re-entered service.

(10) In the following instance my informant was able so to guide procedure that the infant, although with foster-parents, is within fairly easy reach of the mother:—A single woman, aged 31, was confined. During pregnancy she had come to the city "to see the father (who had removed there) of the child, because he refused to marry her." After the confinement, a married sister in England wanted her to return to assist in a relative's business. The mother (the father had made no arrangements for assistance) thought of boarding-out the child (a son) and tried to arrange accordingly. Fortunately, she did not meet with success, and ultimately took him with her to England, where she succeeded in obtaining a foster-mother at no great distance from her sister's home, and will be able to keep in close touch with the child. Undoubtedly, this should prove to be a much happier arrangement than was the mother's first intention.

(11) The following procedure was carried out in connection with an expectant mother:—This woman (single), aged 21, came from Ireland as a domestic in a boarding-house in one of our holiday resorts. She was said "not to be too happy in her home." A few months after her arrival she had to seek medical advice, and was found to be advanced in pregnancy, and it was understood that she would go to an institution for her confinement. Of her own accord, she arrived there too soon and was sent back, my informant finding her a home in which she could await the confinement. Ultimately she was sent to the parish hospital for confinement. Thereafter arrangements were made, and mother and infant were taken to a home in England; and recently a letter has been received from the mother that "she is happy and the baby is doing well." According to my informant, such a home does not exist in Scotland.

(12) That the existing measures for dealing with this class of mother and infant are inadequate is shown in the following:—A single woman, aged 21, was confined. Previously she had been supporting herself in domestic service. For a time before her

confinement she had been resident with a woman friend. She "seemed really fond of her baby," but her friend, to whom she went on discharge from the hospital, was urging her to get it adopted. Ultimately she was accommodated in —— Lodging-house. Here, however, the condition is that harbour is given until a foster-mother has been found for the child or the mother goes to her own home. Efforts are now being made to find a foster-mother, and the mother is re-entering on domestic service.

(13) A single woman, aged 31, on discharge went into lodgings with a friend. Her father has been dead about twelve years and she had never "known her mother." She supported herself at work. For a time she lodged with this friend, but later was admitted to the —— Lodging-house. A foster-parent was found for the infant. At first she earned about 11s. per week with food on week-days; 7s. of this went to the foster-mother, 3s. for her room in the Home, and 1s. for her meals on Sundays (she worked in a restaurant), leaving nothing for clothes. In the meantime an effort was made to obtain some support from the putative father, without success. For several months now the mother has remained in the Hom and had obtained more remunerative employment. She keeps in close touch with her baby. It is believed, however, that owing to the desperate straits to which she was at first reduced, "she would have handed over the infant to the first person that would take it and never wanted to see it again herself."

. . . My informant also stated that on discharge the problem in connection with each mother was different. Much reflection is required to guide each one into the channel which will be best for herself and the infant. She is certain, however, that some extension of the existing means for meeting the immediate needs of these mothers is required, and believes that the objects of the Chelsea Day Servants' Hostel will meet with most success. She is of the opinion, however, that owing to the varying psychology of the mothers, too rigid rules in an institution will defeat the ends in view, because a certain type of mother will, owing to that, refuse to take advantage of the opportunity offered. Also that a good deal of study of each mother should be made and the kind of occupation not forced upon them.

Conclusions.—As long as we are faced with the existence of illegitimacy (into its causes and prevention one does not enter here) no effort should be spared to improve the lot of illegitimate infants and their mothers. In the first place, a healthier public opinion is wanted so that the mother will not feel that in her misfortune she is an outcast of society. So long as such an one believes that that is her lot, an active tendency preventing her from leading a virtuous life will continue to operate. On the other hand, give her the right to the responsibility attendant upon looking after the future welfare of her infant, and at once we get into alliance with powerful factors for good. It has been urged by some that unless the sense of shame is brought home to the woman and she is made to "suffer" for her sins (and they might hold that assistance given on the lines indicated in the preceding pages prevents the development of the "shame") illegitimacy will be encouraged. Let us look at the matter as follows:—Thus, given two mothers from the identical social stratum, each with an illegitimate infant; one is encouraged and advised by her friends to hand her infant to a foster-parent, and, in order to hide her "shame," to take no further interest in it. The other is persuaded and assisted to look upon her infant as her very own possession, which she will have all the rest of her life. It must be conceded (in spite of the difficulty that is now experienced in obtaining a foster-mother, thanks to the supervision of the baby-farmer) that it has been "easier" for the former than for the latter mother. It has only been by developing and encouraging her maternal instincts that the last-mentioned mother has been taught and convinced that she has followed the correct course. Once convinced, she is more likely to continue in the upward path. Whereas the first-mentioned mother has received a mental "shock" and may the more easily again "fall."

Are not our Parish Council Authorities very familiar with the mother who has had, it may be, as many as six illegitimate infants, each one of whom has been "fostered" without dependence upon her for their future?

Once public opinion has veered round to the attitude that the mother of the illegitimate child has a right to be befriended and so circumstanced that she can give of her best to that child, and at the same time it comes to be looked upon as not the correct thing to dispose of the infant to strangers, we shall introduce an obstruction in the path of illegitimacy and at the same time perform the very best service to both mother and child.

Granted, then, that these mothers should be assisted, what form is the assistance to take? It is quite obvious that for a certain proportion, and especially those who come to our large cities to be confined, some further provision to befriend them on the lines of the Day Servants' Hostel is required in the big cities in Scotland. It has been shown above in the procedure outlining the action taken in one city by this social worker that she is meeting with success, but can deal efficiently only with a limited number of cases owing to lack of facilities in that direction. It is quite clear that mother and child must be

closely related for several months if we are to get the best results, though, of course, she may go out to suitable occupation during the day. At the end of a year, say, even though the child has then to be boarded-out, it will be found that the mother will take him with her and still be able to work for him. My informant states that a large proportion, if not indeed over 50 per cent. of those she has to deal with, would on no account marry the putative father. If, in addition, some form of guardianship, as is referred to previously, is established in each case, the physical and moral future of both mother and child will be still further safeguarded.

From another inquiry Dr Watt furnishes a pointed illustration of the difference that a year with the mother makes to the life-history of the child. A girl of seventeen had an illegitimate child—a robust, well-nourished boy. She stayed in her mother's house and herself nursed the child for a year. To-day the boy is an active and vigorous child of five. Meanwhile the mother had a second child who, at birth, was as vigorous and well developed as the first. The same doctor had attended the mother in both confinements, and his statement on the equal vigour of the children was emphatic. But the mother nursed the second child herself only for a month. She then went to "munitions," leaving the child to the care of the grandmother. To-day the child, aged nine months, is obviously undernourished, and the grandmother, holding the child, expressed the opinion that it was "not thriving." It is difficult, Dr Watt adds, to avoid the conclusion that the difference between the two children is in no small degree due to the fact that the first had a good start in life, whereas the second had its mother's milk for one month only. Both children have had the same pernicious home environment to contend with.

6. *Criminal Aspects.*—The criminal side I have not attempted to investigate. But there is an under-world of tragic facts known only to the delinquents and to the criminologists. The facts are not without relation to the general problem of the unmarried mother; but a discussion of them here would make the case too complicated, even if I had adequate data to discuss. But the world of crime is, to a great extent, a segregated world. There are scores upon scores of unmarried mothers that do not belong to it. But often it must happen that, by the sinister stresses of their experiences, they are driven outside of the conventions and find their entry into the world of "no questions asked."

7. *Suggestions for Remedy.*—There is no single remedy. The problems are much too complicated for that. Our concern here is only with the physical welfare of those mothers. But a social student, rich in experience and sympathy, has suggested to me that some primary needs are such as these:—*First*, education against the danger of drugs that may be used to procure abortion; *second*, education of boys in the results to the women; *third*, education that a doctor, and a good doctor at that, is the only person to be consulted; *fourth*, education in the danger of quackery; *fifth*, education that the good home—father, mother, and child—is the one method of avoiding irreparable injury to the child. This worker enforces some other points: the inhumanity of present methods, whereby the mother

of an illegitimate child is obliged to leave it ; the need of homes where the mother can learn a skilled trade if adapted for it and keep the child by her for the first few months ; the possibility of colonies for misfits—for example, " Certain nuns and sisterhoods do good work in the way of keeping the girls who are unfitted for the common life and would probably ' go wrong.' "

These, I feel, are admirable lines of approach ; but they demand sympathy, skill, and invention. They make prominent the need for the study and the care of the individual person ; they show that little is to be expected from the working of systems founded on a single abstract principle such as "destitution" or "immorality." The nursing back of a young woman into the conventional relationships of life is a subtle and difficult process. The departure from these conventions is never sudden ; the return is never easy. But it is always essential that the methods should be adapted to the case. The danger of all " homes," as of the industrial schools, reformatories, and, indeed, remedial institutions generally, is want of domestic imagination. " The soft play of life," to use once more Matthew Arnold's fine phrase, is too subtle and elusive for any but the social genius. That makes the problem all the more hopeless ; but equally it suggests that the further stages towards the real care of the unmarried mother lie in a prolonged sociological research into the causes through which she loses her hold of normal society.

But to one cause of the unmarried mother's distress and agony I wish to give the most unmistakable prominence ; it is to be found somewhere in the history of the great mass of the cases ; it is a symbol and symptom of the failure of the civilised father and mother to grasp the elements of a self-sustaining civilisation. The cause I mean is the angry readiness both of the father and of the mother to turn a pregnant unmarried daughter out of the house. Short of murder, can a parent be guilty of a greater crime to his daughter ? But where in the penal code is his punishment ?

8. *Conclusion.*—This is a vague rendering of the difficulties ; the more I study the question, the more intricate I find it. But the best that we can do is worth doing, even if it must be but a second best.

Thus far the unmarried mother. I now offer a few facts on the unmarried mother's child.

CHAPTER VII

THE UNMARRIED MOTHER'S CHILD

1. *Numbers.*—In the five years from 1911 to 1915 the total number of illegitimate children born was 43,491. In the five years from 1901 to 1905 the number was 43,046. Let us say that the average number born each year is approximately 8600.

We have said enough to show how the unmarried mothers are provided for or left unprovided for. Incidentally, we have shown to a certain extent how their children are provided for. But in many respects it is less difficult to make provision for the mothers than for the annual crop of 8600 children. The mothers, however they are provided for, can at least fight for their lives and often attain to a passable living. The newborn infant can do nothing for himself. He hangs on the service of others. Within hours of his birth he may be taken from his mother's breast and put among those whose skill is often no substitute even for an unskilled mother's care. He may pass from hand to hand and from place to place. Besides the risks he has encountered in coming to birth, he encounters a thousand others that fall only to the children of the unmarried. If, starting from the same line, he loses in the race with his legitimate fellows it is from no fault of his own. He has not sinned, but he comes short of the glory. That is the tragedy of the unmarried mother's child.

Reckoned in cold figures those 8600 illegitimate children mean a yearly illegitimate birth-rate of some 13 for every thousand single and widowed women between the ages of fifteen and forty-five. Reckoned in the same way, the 112,000 legitimate births would mean, roughly, a birth-rate of 230 per thousand of the married women between the ages of fifteen and forty-five. Both the legitimate birth-rate and the illegitimate birth-rate reckoned in this way vary considerably from year to year. The legitimate birth-rate has been falling with some constancy. Thus, in 1901, it was 269 per thousand married women between fifteen and forty-five ; in 1911 it was 231 ;

in 1914 it was 236; but in 1915 it was 216. The last is a special year: it was the first full year of the great war. Reckoned in the same way, the illegitimate birth-rate for 1901 was slightly over 13 per thousand single and widowed women between fifteen and forty-five. In 1911 it was 14; in 1912 it was almost 14; in 1915 it was about 12. This rate, too, has gone down slightly; but not so rapidly as the legitimate birth-rate.

2. *The Distribution of the Illegitimate Births.*—If we take a single year, say the year 1914, we find that the illegitimate births numbered 8879, yielding an illegitimate birth-rate of 13·5 per thousand unmarried women and widows between the ages of fifteen and forty-five. In the larger burghs there were 4108 illegitimate births—a rate of 12·2 per thousand; in the smaller burghs there were 1682 such births—a rate of 12·6 per thousand; but in the county districts there were 3089 such births—a rate of 16·5 per thousand. If we take the year 1913 the corresponding figures were—larger burghs, 12·0; smaller burghs, 11·9; county districts, 15·8. In 1915, the corresponding figures were 10·5, 10·7, 15·5. In each of those three years the larger and smaller burghs showed practically the same rate per thousand unmarried women and widows aged fifteen to forty-five. The county districts showed a consistently higher rate.

Neither in the towns nor in the county districts is the distribution uniform, nor does it have any direct relation to the numbers of the general population, nor to the industries, nor to any other easily accessible factor. The distribution of illegitimacy is a sociological problem of profound difficulty. I offer no suggestion towards the solution of it. All we need say here is that, on the whole, the same counties and the same towns keep the lead consistently from period to period. If you look at the figures for those three years you will find that in 1913 the county of Banff had a rate of 28·8 per thousand; in 1914 a rate of 26·8 per thousand; in 1915 a rate of 28·2 per thousand. In two of those three years it was an easy first; in the other year it was only 0·7 behind the county of Elgin, which led. Among the towns with over 50,000 of a population, in the same three years, Aberdeen city had a rate in 1913 of 17·1; in 1914 a rate of 15·6; and in 1915 a rate of 15·7. In the same three years the rates for Edinburgh were 8·1, 8·6, 8·5.; the rates for Glasgow were 12·5, 12·5,

10·7 ; the rates for Dundee were 12·9, 14·2, 10·0 ; the rates for Paisley were 8·7, 10·1, 7·6 ; the rates for Greenock were 13·1, 13·5, 10·9 ; the rates for Leith were 12·6, 11·9, 9·7.

It is, therefore, clear that illegitimacy arises from a combination of factors that are not directly indicated merely by the illegitimacy rates alone. It is easy to offer explanations like "immorality," or "bothies," or "overcrowding," or the mother's "feeble-mindedness." But these explanations are all "too cheap." Illegitimacy is no direct index of the immorality of sex relations or of the proportion of feeble-minded in any community. It is true that feeble-minded women frequently produce illegitimate children ; but to say that all the mothers of illegitimate children are feeble-minded is to trifle with the facts.

3. *The Death-Rates of Illegitimate Children.*—So far as we can obtain precise information, we are justified in saying that, on the whole, the death-rate among illegitimate children is distinctly higher than among legitimate children. Where it has been precisely investigated, the illegitimate death-rate is often found to be twice the legitimate death-rate. Detailed proof of this is hardly necessary. One striking illustration is enough. In his Report for Glasgow for the year 1913, Dr Chalmers tabulated the legitimate and illegitimate births for three periods of five years each. The table is so good an illustration that I reprint it here.

Death-Rate per Thousand Births

	Legitimate.		Illegitimate.	
1899	143		286	
1900	145		286	
1901	141	137	269	276
1902	126		244	
1903	132		298	
1904	131		342	
1905	122		263	
1906	122	124	244	263
1907	122		229	
1908	129		238	
1909	124		214	
1910	111		233	
1911	127	120	260	223
1912	118		185	
1913	121		227	

If we take the averages for the three periods of five years we find that the illegitimate death-rates were 276, 263, and 223; as against the legitimate death-rates of 137, 124, and 120. In both classes the death-rates have fallen; but the illegitimate death-rate is always much higher than the legitimate death-rate.

There is no need to look far for the reasons. The infant suffers before birth from the conditions imposed on its unmarried mother. It suffers after birth from all the disadvantages of a relatively casual and endangered life. It needs no prophet to foretell a higher death-rate for equal organisms placed the one at lesser, the other at greater risks. It is not necessary to assume that the illegitimate child is, on the average, weaker at birth, or more frequently diseased (though this is more doubtful), or in other respects more degenerate. The known conditions of its history before and after birth are alone enough to account at least for the grosser differences in the death-rate.

But even this difference in the death-rate must not be regarded as universal. Thus, in the county of Forfar, there were born in 1911, 933 children—853 legitimate, 80 illegitimate; of these, 58 legitimate and 1 illegitimate died under one year. In 1912, 947 children were born—869 legitimate, 78 illegitimate; of these, 67 legitimate and 2 illegitimate died under one year. In 1913, 842 children were born —750 legitimate, 92 illegitimate; of these, 58 legitimate and 1 illegitimate died under one year. In 1914, 870 children were born —793 legitimate, 77 illegitimate; of these, 46 legitimate and 1 illegitimate died under one year. These figures give a yearly average of 816 legitimate births, with an average of 57 deaths under one year; an average of 82 illegitimate births, with an average of 1·25 deaths under one. These figures are equivalent to a legitimate infantile death-rate of 69 per thousand, against an illegitimate death-rate of 15 per thousand. In the county of Forfar, and probably in other places, the death-rate of illegitimate children is distinctly lower than the death-rate of legitimate children. But the figures are too small to upset the general truth that the illegitimate child fares worse on the whole than the legitimate. It may be that, class for class, the legitimate child, even in Forfar, has the advantage. But I have no data for any definite conclusion. Up to this point we are speaking only of the children under one.

4. *The Immediate Destiny of the Unmarried Mother's Child.*—Some

of the children are boarded-out by the Parish Council; some go to their grandparents; some go to aunts, or other relatives; some are boarded-out in a family of strangers; some go, with other children, to a registered home, which is a mere technical name for a baby-farm. The home may be a large baby-farm and the woman that manages it a large farmer, or it may be a small home and she may be a small farmer. In either case the home is usually a commercial institution. Where it professes not to be commercial, yet accepts payment or collects money, it is well to be exacting about the finances. Delicate human lives have to depend on the goodness of its management. That is why the Children Act, after a long agitation, surrounded the baby-farm with so many restrictions. Some go to orphanages, or to other forms of philanthropic homes. But the newborn infant has to face a further difficulty; for, in general, all the institutions make difficulties in receiving children of the earlier ages. Many die.

In the great majority of cases the child is separated from its mother. He may or may not find a foster-parent of better quality; but by the end of the day, he will miss his mother, as, at the beginning of it, she misses him. I have been in a country cothouse where a busy and humane farm-servant's wife took charge of three—one a dying infant of two months, another a boy of three, and another a boy of four or upwards. Occasionally she was paid; as often, not. In many parts of Scotland this is a common story. But in that part of Scotland I have many reasons for concluding that, on the whole, the unmarried mother's child fared as well as the other children. But there the tradition was unspoiled by the obsessions and social deprivations of the city. The homes, if poor, were within a zone of abundant food, and there was always the open field for playground. There, spontaneously, the unmarried mother learned where to place her offspring, and she did so with confidence; for, if she did find reproof, she also found sympathy and tenderness. I am not discussing ethical values; I am describing facts.

But this is not the common history of illegitimates everywhere. In the country, probably the unmarried mother's child has, at least for a time, as good a chance to live and to grow as the other children of his own economic grade. But as he grows, his handicap increases. If he is fortunate he is adopted into his boarding family; if he is more fortunate he finds his mother earning good wages and fit to pro-

vide a home for him. But many a time he finds neither of these alternatives, and he has to make his way into life alone. When he comes to the wage-earning age he may again find his mother, a better woman or a worse, as fate decides. He may find his father, too; but that is rare.

In the large cities, events are different. Life is more difficult for the individual mother. She passes into an industrial occupation that is incompatible with a mother's full duty. She finds the burden of life too heavy. She is a discredited woman. She has to depend on many accidents for her living. She is tempted at every hand to leave the child at the roadside. In the city she fails to find the simple open machinery of life that works so smoothly in the country. She meets a thousand obstacles, and as often as not she fails to surmount them. How many of the women one sees in the women's lodging-houses of Glasgow, or in the farmed-out houses, are mothers, no one can now tell; but many of them found their way there through the portal of motherhood, and their homes to-day are night palaces of melancholy. The ex-mothers are classified variously—charwomen, laundresses, and what not. Long before the forties, they show the faces of decrepitude. In the mass they have impressed me as saturated with sadness. They are the blighted crop of the generation's women. And their children—where are they?

It is difficult to follow up the child of the unmarried mother beyond a few days or a few weeks of his birth. This is proved by the following series of cases. They have been collected by Mr Alexander B. Millar, General Superintendent of Poor for the Western District under the Local Government Board for Scotland. Mr Millar has had an exceptionally wide experience of poor families all through the Highland District, and, recently, through the south-western counties. His district includes the greatest concentrations of population in Scotland. In the course of his ordinary duties he has taken occasion to follow the history of a number of unmarried mothers' children. His notes are so valuable that I reproduce them in full. They show how even a skilled and sympathetic inquirer, familiar with every phase of poverty in Scotland and master of the most tactful methods of social discovery, may fail in a matter apparently so simple. His notes are eloquent of the difficulties. They prove by themselves that of the 8600 unmarried mothers' children that see the light in Scotland every year many are lost to the nation because no social machinery exists to save them.

THE UNMARRIED MOTHER'S CHILD

CASES RECORDED BY ALEX. B. MILLAR, Esq., *General Superintendent of Poor, Western District*

In a letter, Mr Millar writes :—

" I enclose some notes regarding the cases of mothers who left the poor-house after the birth of their babies. These mothers were chargeable to the Parish of Glasgow.

" The notes do not give any idea of the amount of work entailed. Many visits had to be made and many rebuffs taken before any information could be obtained.

" You will notice that I really saw only four of the babies ; of these, two were extremely well cared for, one well nourished but dirty, and one very badly cared for.

" I would like to state that during my investigations I was struck by the more healthy appearance of the children in the various districts as compared with what I had seen in pre-war days. It is quite evident that the children are better fed owing to the high wages ; but I regret, at the same time, to have to report a considerable waste of the necessaries of life. In almost every house, and in every ' close ' or ' back-yard,' the amount of bread thrown away was dreadful. In several cases there was evidence of pies and pastries.

" I trust the information may be of some value.

" I have still a number of cases to visit, but I have been kept busy with special inquiries, and I have been unable to overtake them ; however, I shall do all I can in my spare time. The districts to be visited cannot very well be entered after dark, so that time available for visiting is short.

" So many of the women folk are employed on munitions that it is difficult to get an answer at many of the houses."

(1) A. B., 21. Child taken to Salvation Army Home.

(2) C. D., 19. Child adopted. Mother working in rubber works, but not staying with parent. Mother of C. D. is living in cohabitation with a man, and is greatly disturbed because her son will not assist her so long as she allows this man to stay with her.

(3) E. F., 19. This young girl never went to the address given, which was that of an aunt. I obtained address of a step-sister and visited her. She states that E. F. is to be seen occasionally with the baby, but she has no idea where she is living. She had stated that the father (a soldier) of the child promised to marry her, but on inquiry her statement was found to be incorrect. E. F. is stated to have a very bad character.

(4) G. H., 21. This girl has gone to service in ——. Her mother—a most respectable woman—has charge of the baby. The baby could not be better attended to anywhere ; she was lying in a very comfortable cradle ; the bedding was scrupulously clean. The baby was scrupulously clean and seemed healthy. The mother of G. H. has been recently married to a corporal in the ——. The house consists of a room and kitchen comfortably furnished and scrupulously clean.

(5) I. J., 21. This young woman never turned up at the aunt's address. The aunt was stated by a neighbour to be away for three weeks' holiday ; but, after some difficulty, I was enabled to interview the husband of the aunt. He stated that I. J. was a ne'er-do-weel, a thief, and all that was bad. He understands the baby has been taken by a woman in ——, but could give no address. The man is a carter, and is often in ——, where he occasionally sees the girl. He also stated that she would not be admitted to his house, as on the last occasion she ran off with several things.

(6) K. L., 23. This girl was stated to have gone to an address in ——. I found at the address given that the man was not living with his wife, but cohabiting with another woman. He seemed distressed in case I had gone to his wife. He stated that K. L. was now a ——, and that the baby had been adopted, but he was unable to give me the address of the adopted parent or of the girl.

(7) M. N., 29. The address given is that of a farmed-out tenement. The caretaker

thought she recollected the girl taking a room and staying a week; she further stated that she was under the impression that the woman had been arrested and that the police had taken the child from her.

(8) O. P., 24. No such person ever resided at the address given—so the neighbours informed me.

(9) Q. R., 19. I have called repeatedly—at different hours—but I have always found the house closed. The other houses on the same flat have also refused to answer my knocking. The tenement seems a respectable one.

(10) S. T., 34. Address not found. No such number as that given. Shopkeepers and neighbours had no recollection of such a person. The caretaker of a farmed-out tenement could give me no information.

(11) U. V., 21. Not found at address given, but I was enabled to trace the girl to her granny's house. This girl was brought up by Glasgow Parish Council and is at present employed in the kitchen at the ——. The granny is an Old Age Pensioner, and another grandchild—a clerkess in a wholesale office—resides with her. The child is healthy and evidently well nourished, but was sadly in need of a good washing; the old woman had not been keeping well and was not really able to look after the child. Another woman was in the house to attend the old woman and do some washing up, etc. The father of the child is in the Army, but has made no payment on behalf of the child. House fairly comfortably furnished, but requires a great amount of "redding" up.

(12) W. X., 30. No such address as that given. I spent a considerable time trying to trace the house this woman had gone to, but I failed.

(13) Y. Z., 30. The woman to whom this girl had gone had removed to another part of the city, but I could not obtain the address.

(14) A. A., 22. I found the women at the address given all considerably the worse of drink. A. A. was stated to be away with some travelling showpeople, and according to one of the women she was stated to be again in the family way. The child was taken charge of by the Parish Council and died in —— Home.

(15) B. B., 30. The party to whom this woman had gone on leaving the poorhouse had removed from 45—the address given was 75—and no information could be given me as to where she had removed.

(16) C. C., 25. The party to whom this young woman had gone on leaving the poorhouse had removed, and I failed to ascertain her whereabouts.

(17) D. D., —. To National Vigilant Association. (Removed from local hospital.)

(18) E. E., 20. This girl never stayed at the address given, and the aunt was unable to give any address, but stated that the child was now in Parish Council Home, ——.

(19) F. F., 31. This girl has gone back to her old situation. Her employer has had the child adopted—in fact, would have adopted the child had the sex been different. The Parish Council refused to take charge of the child, although the employer offered to become security for 5s. weekly. The girl is in domestic service.

(20) G. G., 24. I was unable to trace this case.

(21) H. H., 36. To Salvation Army.

(22) I. I., 22. This girl gave her mother's address, but I found she had never gone there. The mother has remarried, and has no idea where her daughter is. It appears that this is the second child—the first baby was stated to have been born in —— Poorhouse. This house was one of the filthiest I have yet visited, and the mother and stepfather were in a filthy state, although earning good wages.

(23) J. J., 34. This girl had removed from the address given. It appeared she lived along with two other sisters. The neighbours practically refused to give me any assistance further than stating I might find her in —— Street.

(24) K. K., 19. This girl returned to the house of her parents. Has never walked since baby was born. The baby died. She was stated to be in a very bad state of health. I advised parents to send her to Parish Council Chambers and re-enter poorhouse. Father was stated to have been idle for nine weeks. One boy at home working and one at school. A daughter, married to a soldier, living in the neighbourhood is working and the parents look after her two children during the day. The house was filthy, and the father of the girl had had a dram.

(25) L. L., 24. I failed on several occasions to obtain an answer to my knocking or ringing. A most respectable locality.

(26) M. M., 21. A farmed-out tenement. Family was stated to have gone, and I could obtain no satisfactory information. Women the worse of drink.

(27) N. N., 18. I found the address given. A boy was at home, but could give no information regarding N. N.—in fact, was not aware of her existence, although his mother was supposed to be the girl's aunt. His mother is employed from 6 a.m. to 6 p.m., and

never home till 7 p.m. House tidy and comfortable. Boy stated there had been no baby in the house at any time, and that his mother was a widow. He also had two sisters working.

(28) O. O., 19. This girl had removed from the address given, but I was able to trace her. Father in Army, refused to pay for child. Sister to whom she had gone occupied a "restricted" house and had to remove, as with O. O. and child house was overcrowded. Sister removed to a house where there were no restrictions as to overcrowding. House of two apartments, but really only one with a partition about 7 ft. high separating the two. Received maternity benenfit, but gave Parish Council 10s. The surroundings here are very bad. O. O. and sister have very bad coughs, and the baby is a weakling, badly nourished. The mother is not fed, and as she is nursing the child the baby is not thriving. O. O. was employed in a pottery, but off work for one month with poisoned thumb—hopes to start again in a few days. Sister's husband is a labourer, earning 20s., with a wife and three children, aged 8, 6, and 16 months, to support. Most miserable and filthy place.

(29) P. P., 19. I traced this girl to another address. She had been employed as laundry maid at ——, presently in laundry at ——. Father of child was employed as motorman, but is now a hotel boots. Child boarded with ——, who has a family of her own.

(30) Q. Q., 22. This girl resides with her mother and step-brother in a single apartment. At present employed in —— Brewery. Step-brother employed at munitions—out on night shift—stated that child was healthy and thriving; child was out with granny. Single apartment, which was filthy, contains a box-bed and a press-bed (one has simply to crawl in here, and there can be no ventilation).

(31) R. R. 29. To Salvation Army.

(32) S. S., 24. I traced this girl to another address, but although I made repeated visits I was unable to see either the mother or the child. On two occasions I was requested "to get to hell out of this" by a neighbour.

(33) T. T., 29. Mother removed to ——. Parish Council have child.

(34) U. U., 26. I traced this girl to three different addresses. She is at present employed at —— and earns 27s. weekly. She will not part with her baby, which she has with her in lodgings, for which she pays 13s. weekly. This girl ceased corresponding with father of her child after the baby was born. A most respectable young girl. The landlady is very fond of the baby and is quite prepared to adopt her, but the mother won't part with the child. The girl had been in domestic service. Child exceedingly well cared for.

5. *Later History.*—The later history of the unmarried mother's child is still more difficult to trace. I have no facts worth the name. In some of the large boarding-out parishes the Inspectors of Poor have prepared records of after-history, and these show some failures and many successes. But the precisely recorded facts are few. And a time comes when the tracing of histories is the worst service the community can do to the individual boy or girl. The sooner the conditions of his birth are forgotten, the better for the child. Only malice can wish to preserve the memory. The child ought not to suffer for the manner of his birth; for whatever responsibility rests on the parent for his child, no responsibility can rest on the child for his parent.

6. *Conclusion.*—As with the unmarried mothers, so with their children, only one conclusion is possible: the provision is inadequate. What further forms such provisions should take, I have difficulty in suggesting. The social attitude to the unmarried mother and her child is a primary obstacle to full discussion. In some cases the institutions refuse either the unmarried mother or her child.

Where the institutions are private they are entitled to do so. But under the new legislation the public authority can take no such course. The presupposition of all the new legislation—whether it be maternity benefit under the Insurance Act, or help for the expectant mother or attendance on necessitous mothers under the Notification of Births Act, or medical attendance under the Midwives Act—is always this, that the mother, regardless of personal history, is to be treated according to her physical needs, not according to the social theory of her character and conduct. The drift of social opinion, as embodied in these Acts, is unmistakable. The war has made the drift more manifest. For the non-marriage of the woman designated by the soldier has not always meant the refusal of the separation allowance. I hesitate to say that the life-waste in the war has increased the value of the child; for value is apt to be taken in the money sense, and nothing can justify the measurement of human life in terms of money. But, without accepting a code so degraded, we may say that the life-wastage of the war has revealed, with an intimacy unknown to history, the social relations of men and women to one another and the social duties that follow. The care of children in general, and the care of the unmarried mother's child in particular, are among the many things that will now be accepted as duties "without questions asked."

The administrations will now gain more insight from experience. But there is room here for a much closer sociological inquiry than I have been able to make, and I think such an inquiry should be undertaken into the whole problem as it affects Scotland.

Addendum

In a pamphlet on the "Illegitimate Baby in Peace and War," Dr A. Dingwall Fordyce, chairman of the executive committee of the Infants' Edinburgh Home, gives a special account of the general principles that determine the nature of the institution, and of the work done since it was established. Dr Fordyce has had exceptional opportunities of studying the children of the unmarried mother; he has traced a large number of their after-histories, and he has presented an analysis of the facts that shows how much positive good an institution of this type can do. As in his other published studies of children, Dr Fordyce presents his facts in the larger perspective essential to a real estimate of the problems centering

in the unmarried mother and her child. With his permission, I reproduce the following portions of the pamphlet:—

Illegitimate Infants born in the Royal Maternity Hospital, Edinburgh, 1st January to 30th June 1911, and their History for Three Years, i.e. *till 30th June 1914*

Total		141
(*a*) Dead-born or died practically at birth	14	
(*b*) No trace of mother or child	38	
(*c*) "Reports" about	7	
		59
(*d*) Satisfactorily traced		82

Of these 82 cases as determined three years later:

Girl married and child well and with her (Stated to father of child in 5 cases.)	13 cases	
Girl married and child delicate and with her	2 ,,	
Girl married and child well and with relatives	5 ,,	
Girl married and child delicate and with relatives	1 ,,	
Girl married and child well and adopted	3 ,,	
Girl married and child well and boarded out	3 ,,	
Girl unmarried, child well and with relatives	16 ,,	
Girl unmarried, child very delicate and with relatives	4 ,,	
Girl unmarried, child well and adopted	5 ,,	
Girl unmarried, child well and boarded out	2 ,,	
		54
		28

So that in 54 out of 82 cases the child was alive and more or less well cared for.
In 19 cases the child died.

Of these 19 cases:

Girl married and child cared for in	3 cases	
Girl unmarried and child cared for in	3 ,,	
Girl married and death of child suspicious	1 ,,	
Girl unmarried and death of child suspicious	4 ,,	
Girl unmarried, care of child prior to death uncertain	8 ,,	
		19
		9

Of the remaining 9 cases:
In 4 cases the girl married and kept the child with her.
In 1 case the girl married and child was adopted and looked after.
In 4 cases the girl remained unmarried and child was adopted and looked after.

9 — 9

Résumé

Of 82 cases traced for 3 years:

Child known to be alive and cared for in	54 cases	
Child presumably cared for in	9 ,,	
		63
In 6 cases in which child died mother known to have been good	6 ,,	
		6
So that in 69 out of 82 cases babies had fair attention.		
The baby died in 5 cases under questionable circumstances	5 ,,	
And in 8 cases the conditions prior to death were uncertain	8 ,,	
		13
		82

Out of 82 cases the mother married in . . . . . 36 cases

Of these 36 cases :

The child here spoken of was the 1st child in 30 cases.

Girl married father of child in 12 cases	12 ,,	
Girl married another man in 6 cases	6 ,,	
Relationship of husband to child not stated in 12 cases . .	12 ,,	
		30
The child here spoken of was the 2nd child in 3 cases, the 3rd child in 1 case, the 4th child in 1 case, and the 6th child in 1 case .		6
		36

In all these cases the girl married the father of the children.

Out of 46 cases in which the girl remained unmarried the child here spoken of and traced was the

1st child in	35 cases
2nd ,, ...	9 ,,
3rd ,, ...	1 ,,
4th ,, ...	1 ,,
	46 cases

Of the 13 cases in which the child died under suspicious circumstances or in which the care of the child prior to death was uncertain :

The child here spoken of was the 1st child in 12 cases.

,, ,, ,, ,, 2nd ,, 1 case.

Of the 45 cases which could not be traced satisfactorily or at all, the child here mentioned was the

1st child in	31 cases
2nd ,, ...	13 ,,
4th ,, ...	1 ,,
	45 cases

Of the 82 cases traced the child here mentioned was the

1st child in	65 cases
2nd ,, ...	12 ,,
3rd ,, ...	2 ,,
4th ,, ...	2 ,,
6th ,, ...	1 ,,
	82 cases

What do these statistics show ?

(1) It was possible to trace 82 cases for three years after the birth of the child out of 127 cases in which the child survived birth.

(2) Of these 82 cases the mother afterwards married in 36 cases.

(3) In 69 out of these 82 cases the babies had fair attention.

(4) Forty-five cases could not be traced satisfactorily, or at all.

It would appear reasonable to consider that of cases under heading (4) a certain number could not be traced because of shame on the part of a good mother; but in many cases it was certainly because an undesirable mother wished to leave no tracks. It may be taken that in 75 per cent. of cases the illegitimate baby received fair attention, and that in 40 per cent. of cases the unmarried mother later married.

It seems reasonable to conclude that an illegitimate baby in 1 out of 4 cases does not receive the ordinary attention given to his legitimate brother. This does not mean that 3 out of 4 are properly attended to. At best it means that 3 out of 4 receive the ordinary treatment of legitimate children of that class. In the out-patient department of any sick children's hospital in a large city the time of the physician is to a very large extent occupied by attending to children under three years of age who suffer from preventable diseases. Their mothers are well-meaning and kindly, but either from ignorance on their part or the effect of an unwholesome environment, or both combined, the children become unhealthy. But distinct from these well-meaning though ignorant mothers are most of the unmarried mothers. In some cases they are as unselfishly devoted to their child

as any mother could be. More commonly they are fond of their child, but the times of stress they have been through have left their indelible mark; they are laden, overborne, oppressed by the difficulties of their situation, they recognise the claims of the child on them and would respond if they could, but they cannot, and though they sincerely regret it, there seems little hope for the future except by the death of the child. Other illegitimate babies there are who are brought to the hospital when practically moribund, in whose cases death is obviously wished for, and the doctor is looked upon not as a curer of disease, but as a necessary means of securing a death certificate.

Dr Dingwall Fordyce here affirms, from the standpoint of a medical specialist, the general conclusions formulated by the social workers already so freely quoted.

CHAPTER VIII

THE EMPLOYMENT OF EXPECTANT AND NURSING MOTHERS

1. *The Nature of the Problem.*—What effect has the physical employment of the expectant and nursing mother on the vitality and health of her child? To this question none but provisional answers can be offered. Yet, as the employments of women in laborious industries increase, a definite scientific answer becomes more and more urgent. Perhaps the study of women's employment during the war may yield some data of value; but the war employments are for the most part temporary and specialised. But the industrial employments of women after the war are certain to increase. This is the fact that compels a closer inquiry into the effects of employment on progeny.

In 1907 the Home Office, when Mr Herbert Samuel was Home Secretary, decided to inquire into the effect of the employment of married women on infant mortality. Mr Samuel held a conference of the leading medical officers of Great Britain. He discussed with them the form of inquiry; he adjusted the schedule of details; he selected suitable industrial areas. In the method of the inquiry a primary point was that the Medical Officer of Health should follow for a year the history of each child born within a given year. In several cities the Medical Officer of Health began the inquiry; but, so far as I am aware, the Home Office have not published any collated results. In such an investigation the difficulties are great, and the possible fallacies many. The variations in employment, the individual histories of the mothers, the hours of labour, the feeding, the housing, the wages, the general standard of comfort, and a number of other factors come into the reckoning. Nothing short of a carefully adjusted investigation of hundreds of individual histories could be of much guiding value; but the death-rates, the rates of child-growth, the rates of disease incidence, and the like do offer a rough approximation to the facts. There have been many special inquiries; but the conditions of life are already calling for the extended inquiry contemplated in 1907 by Sir Arthur

Whitelegge, K.C.B., the Chief Inspector of Factories, and set going by Mr Samuel. In the absence of extended data, I can only offer a few groups of facts from the city of Dundee, where the employment of women in factory work has reached a higher percentage than in any of the other Scottish industrial centres. What is true of Dundee cannot be regarded as necessarily true of other places; for the rapid rise of the jute industry created in Dundee special conditions that are almost without a parallel in Scotland. But Dundee, though it is not a "random sample," has its lessons for the other industrial centres. Wherever the conditions of industry are much the same, the same general results are to be looked for. The effects may vary in degree; they will not vary much in kind.

2. *The Social Union Investigation.*—In the summer of 1904 the Committee of the Dundee Social Union decided to investigate "certain of the social conditions that prevail in the city and especially those affecting the poorer classes." This investigation took its inspiration from the late Miss Mary L. Walker, who, for so many years, devoted her life to social work and study among the Dundee people. The superintendent of the inquiry was Miss Mona Wilson, now Lady Commissioner of the English National Insurance Commission. Among the many valuable studies printed in the Report one deals with the relation of employment of married women to infant mortality. The hours of labour, the provision of crèches, the feeding of the children, and several other points, partly economic, partly physiological, are specially dealt with. There are several individual illustrations and some general conclusions. The following excerpts illustrate the conditions discovered. The facts remain substantially true for the present day. This is shown by some later illustrations taken from the Reports of Dr Templeman, the Medical Officer of Health for Dundee.

> "The most remarkable feature in the Dundee infant death-rate, as compared with the Scottish towns above named, is the proportion of deaths due to gastric conditions. This cannot be accounted for by climate, which is favourable rather than the reverse, and the underlying cause, in the majority of cases, is undoubtedly improper feeding. The excess of deaths from this cause in Dundee may be confidently associated with the predominance of married women's labour. It is common for the mother to return to work within a short period of the child's birth, and it is thus deprived of its natural wholesome food. If the child is still exclusively breast-fed it will be insufficiently nourished, as the mother can only nurse it at night, and in the day-time at intervals over three and four hours respectively. (The working day in the textile factories is 6 a.m. till 6 p.m., with two hours interval for meals—9–10 and 2–3—and some time is, of course, spent in going to and from work.) The alternatives are to supplement breast-milk by cow's milk, prepared foods, etc., or to have recourse altogether to artificial feeding. It is an accepted fact that breast-milk is more

wholesome for young children than either mixed or artificial feeding. Where a child is put out to nurse it is not only deprived of maternal care, but the chance is that it will be improperly fed. The woman to whom it is entrusted has no special qualifications, and is, in the majority of cases, old and past work. The entry on one of our housing schedules—"couple past work, unable to look after a house, which is very dirty; they keep a baby"—is significant. The lady inspectors, who, in the course of the housing inquiry, had a large experience of this practice, and we ourselves were very unfavourably impressed with the conditions under which babies were found in the majority of cases. The payment to these women varies from 2s. 6d. to 4s. 6d. per week, 4s. being the ordinary charge for an infant, and 2s. 6d. to 3s. for a child over one year. They are expected to provide the baby with food out of this sum, and there is obviously a temptation to stint the food, or to give some cheap and unsuitable substitute for the milk which should form the bulk of its diet. On the whole, the children likely to suffer least from the mothers' return to work are those left at home in charge of their grandmother, as they are not exposed to the risks of catching cold in being carried to and fro, and are, in some cases, well looked after. . . .

"It was suggested by the doctors who made the general medical examination, that the dirty and neglected condition of the infants at the poorer schools was due to the fact that the mothers were out at work. There can be no doubt that the children under the school age, which is usually five years, also suffer much from neglect, and that this partly accounts for the unsatisfactory development shown by the measurements of five-year-old children.

"Dr Templeman has pointed out that the ill-health of the school children is partly due to unsuitable food. It should be noted that if a woman is working in the textile industry in Dundee, it is impossible for her to have either breakfast or dinner with her children who are attending school, because her meal hours will be from 9–10 and from 2–3, and the children must be at school by 9 or 9.30 and by 2 o'clock.

"The municipal health visitors' report, contained in the Annual Report of the Medical Officer of Health for 1904, records that in 207 houses young children were found without proper attendance, and that 57 cases of neglect were reported to the Society for the Prevention of Cruelty to Children.

"The Return of Crimes and Offences reported to the police during 1904 shows that 1537 strayed children were brought to the police stations, an increase of 529 on the previous year. There were 93 cases of cruel and unnatural treatment of children, and 82 children were found dead in bed.

"The municipal health visitors inquired into 186 cases of children under two years who had died from diarrhœa or disease of the digestive system; and found that in 115 cases the mother was at work at the time of the child's death. Of these children, 21 were breast-fed, 52 partly breast-fed, and 113 artificially fed."

3. *Later Facts from Dundee.*—In his Report for 1909, Dr Templeman gives the result of a special inquiry into families living in practically the same area as those dealt with in the Social Union Report.

"The method followed was to select a working-class district in the city in which a reasonable proportion of women worked in the mills and factories, to get a return of all the births which occurred in that district, to visit the homes of the mothers, and to keep the children under observation during the first year of life.

"The district I selected was that in the centre of the city. The homes of the children born during the year 1908 were visited soon after birth, and again as soon as they had completed their first year.

"This district comprised a population of 16,648, of whom 7283 were males and 9365 females. Of the latter 5737, or 61 per cent., were between the ages of twenty and fifty.

"The visitation was carried out by the health visitors with the assistance of the Social Union workers, and the results obtained are of much interest and importance.

"The district selected was practically the same as that dealt with in the Social Union Report of 1905, so that one can make a fair comparison between the conditions which existed at that time and those found during the present inquiry.

"There were 632 births during the year—showing a birth-rate of 38 per thousand of the population in the district. Four were twin births.

"Of these 632 infants, 596 were kept under observation throughout the year—36 being lost trace of.

"There were 109 of these who died in the first year of life—a mortality of 183 per thousand births. In the same locality four years ago the mortality rate was 246. This

is the district in which the Social Union has for the past three years been carrying on such an active work in the visitation of mothers of the poorer class, and in which the benefits of the Restaurant for Nursing Mothers have been experienced.

"Information was also obtained as to the total number of children alive and dead in the 592 families visited. The percentage of deaths to total number of births in these was found to be 27·5, against 37·3 five years ago.

"*Conditions as to Employment of Mothers*

"There were 350 of these mothers employed in mills and factories, and 13 in rag-stores, shops, hawking, etc. Of the infants of these 75 had died—a mortality-rate of 208 per thousand.

"The remaining 233 mothers had not worked at all or only occasionally since marriage. Thirty-four deaths had occurred amongst the infants of this class, showing a mortality-rate of 150 per thousand.

"The following table shows the total number of births in these families, with the total number of deaths, and the total number of deaths in the first year of life :—

No. of Families.	Description.	Total Births.	Living.	Dead.	Died under 1 Year.
363	Workers . . .	1334	914	420 (31·5 p.c.)	287 (21·5 p.c.)
73	Occasional workers .	345	257	88 (25·3 p.c.)	63 (18·2 p.c.)
160	Non-workers . .	770	598	166 (21·6 p.c.)	98 (12·7 p.c.)
596	..	2447	..	674 (27·5 p.c.)	..

"The two latter classes give an infant mortality-rate of 114 per thousand births.

"*Feeding*

"Information as to feeding was obtained in 568 cases, and it was found that breast-feeding, being cheaper and less troublesome during the first few weeks of life, was almost universal among the workers. Only 17 children were artificially fed from birth. Artificial feeding was resorted to when the mother returned to work or was ill, or when she thought her milk insufficient.

"It is interesting to note in this connection that the mothers who came to the restaurant bore testimony to the improvement of their milk, both in quality and quantity, which resulted from their securing at least one good meal a day.

"Excluding the cases which died shortly after birth, the following table shows how the infant had been fed :—

Description.	Breast.	Mixed.	Artificial.	Total.
Workers	107	219	17	343
Occasional workers . .	36	28	7	71
Non-workers . . .	98	42	14	154
Total	241	289	38	568

"*Employment previous to Confinement*

"In the Report of 1905 more than half the mothers dealt with worked up to within two months of their confinement. The present inquiry shows practically the same result —179 out of 343 having worked till within two months of their confinement.

"*Care of Children during Employment of Mothers*

"Particulars as to the care of children were obtained in 210 cases—5 were found to be in day nurseries or crèches ; 49 were cared for in their homes by a relative ; and 156 were put out to nurse. Amongst the last mentioned there were 16 deaths due to digestive and 22 to respiratory troubles.

"*Housing*

"The housing conditions show a slight improvement on those found in 1905, but the proportion of families living in houses of one room is still very high—32 per cent., as against 37 per cent. in 1905.

"The following table gives the result of this inquiry:—

No. of Observations.	Description.	Rooms in House.				Persons to Rooms.				Rental.			
		1.	2.	3.	4.	2.	3.	4.	4 to 8.	2s.	2s. 6d.	3s.	4s.
360	Workers . . .	161	186	11	2	59	152	77	53	92	95	91	50
162	Non-workers . .	17	114	27	4	40	21	45	24	10	22	36	53
73	Occasional workers *	21	48	4	..	15	26	14	17	9	18	19	21
595	..	199	348	42	6	114	229	136	94	111	135	146	124

* Occasional workers have not worked during pregnancy and till child was weaned, but only now and again since marriage.

"The rent was over 4s. in about 10 cases.

"In 33 cases there were 5, in 10 cases 6, in 6 cases 7, and in 4 cases 8 persons occupying one room.

"Analysing further the history of those families in which the mother was at work, we found that the number of children alive and the number dead in relation to the size of house was as follows:—

One Room.			Two Rooms.			Three Rooms.		
Alive.	Dead.	Died under 1 Year.	Alive.	Dead.	Died under 1 Year.	Alive.	Dead.	Died under 1 Year.
310	156	110 23·6 p.c.	547	232	149 19·1 p.c.	50	19	3 4·2 p.c.

"In the case of the 109 infants who died, we found that 68 per cent. of their mothers were working, that 30 per cent. were living in one room, and that only 15·4 per cent. had been breast-fed.

"In the case of the 487 who had survived the first year, 61 per cent. of the mothers were working, 31·8 per cent. were living in houses of one room, and 46·2 per cent. of the infants had been breast-fed. This shows that both belong to the same class of the community.

"An interesting comparison was made as to the proportion who had died in proportion to the number of children born in the two classes before mentioned. It was found that in the 75 families in which the infant had died and in which the mother was working, 53·6 per cent. of the children born had died; while in the 34 families where the mother was not at work, the percentage was 38·8.

"In 288 families in which the infant had survived and in which the mother was at work, 25 per cent. of the children had died; while in the 199 families where the mother had not been working, the percentage was 19.

"These figures seem to warrant two conclusions:—

"(1) That the employment of mothers is an important factor in the high infantile death-rate.

"(2) That the deaths of infants seem to recur in the same families."

4. *Some Special Notes on Dundee.*—Miss Mary M. Paterson, of the Scottish Insurance Commissioners, who has an intimate knowledge of factory labour all over Scotland and the greater part of England,

has put at my disposal some notes of a special inquiry made into the conditions of Dundee in the year 1904. At that time Miss Paterson was Inspector of Factories. Her notes are too valuable to be left unused. As the few illustrations cited on maternity benefit show, the facts of to-day differ very little from these facts of thirteen years ago. This shows how much there is to do and how slowly it is done. If it can be said truly that the facts of to-day are practically the same as the facts of thirteen years ago—and this is the opinion of the particular investigator,—then surely the proposed schemes of maternity and infant welfare are more than justified. Dundee, as the result of its special history, presents the acutest problems; but other industrial centres have corresponding problems of their own.

Employment of Mothers in Factories

As a result of my inquiry (based on a study of six Dundee factories), I feel convinced that mothers and children would both benefit if the period of absence from the mill after childbirth were extended. An amendment of the Act making a three months' absence compulsory now, the period of absence to be extended further at a future date, would give the child a chance which it does not seem to have now, and would no doubt result in more general (and more wise system of) nursing by the mothers.

As I have said already, many women have to leave the mill some time before childbirth because their work fails to come up to the required standard, and this is often a blessing to them, little though they realise it.

Compulsory absence for a fixed period would, I am assured, lessen the sufferings of the women and reduce the number of stillbirths, but the difficulty of enforcing the law would of course be very great, and the responsibility would necessarily rest on the woman herself.

If any amendment of the present Act were made, I would suggest that the word "knowingly" should be left out and the employment made illegal, so that, in order that the employer should not be held responsible, "due diligence" would have to be shown when he or H.M. Inspector could charge the actual offender.

I would be glad to see the re-employment at three months permissible only on production of a medical certificate showing that the child's health would not be injured by its mother's absence. I realise thoroughly the dangers attached to these restrictions, and that increased vigilance would be necessary on the part of other authorities; but the work of Health Visitors in the manufacturing towns and the inquiries made into the feeding, clothing, illness, and causes of deaths of infants would be to some extent a guarantee that unnecessary suffering was not inflicted on the children.

I would like to see the local registrar's books made more useful by the inclusion of the woman's employment as well as the man's when births and deaths are registered. This is given only in the case of illegitimate children, and so a most important factor is quite overlooked. In a town like Dundee, it is quite as likely that the mother has a trade as well as the father.

Notes of Cases seen in 1904

In order to ascertain to what extent unmarried mothers might be found to be working in the mills, I made a search of the registrar's books for the past year, 1903. Taking the whole of Dundee (exclusive of the district of Lochee) I found that the number of births registered was 4324; of these, 400 were illegitimate; and out of these 400, 278 had their mother's occupations given as textile operative, the large majority being jute spinners or preparers. It was not possible to visit all these in their homes; but I give notes of what I learned from 20 of these mothers, about half the number seen. Of those seen I found only one who had been married to the father of her child, and in most cases no contribution was made by him. It is not surprising that an early return to work seems to the mother a necessity in these instances, and that the length of her absence depends not so much on her own forethought as on her capacity for turning out the necessary amount of work.

(1) 24; jute preparer; two children, aged 18 months and 4 months. Their father out of town, but gives a little help at times. Both ill at time of visit; elder from catarrh of stomach, younger from rupture, with which he was born. Mother works in mill and leaves them with neighbour. Worked to the last before confinement, and started very soon after. Very poor; rent of room, 2s. 3d.

(2) Jute preparer; two children, 2½ years and 10 months. Elder lives with grandmother, younger left with neighbour or "anyone" if the mother is working, but she is irregular.

(3) 23; jute preparer; child 3 months old, mother worked in mill and gave child out entirely, paying 6s. a week for its board. Now at home, and keeps baby and house for mother and sisters. Child's father (soldier) gives no help. Was off work six months at time of birth.

(4) 21; jute spinner; child 3 months old; kept entirely by sister-in-law. Stayed off a month after birth.

(5) 19; flax winder; child 7 months old, kept by neighbour for 4s. weekly. Has no help from the father.

(6) Jute weaver; child 7 months old; taken care of by grandmother. Looks healthy, not nursed by mother. Was off work three months before and two months after birth. Father, two brothers, and two sisters all employed, but only sisters have constant work.

(7) 21; jute spinner. Child died at — weeks. Was absent from work month before birth and fully month after. Lives with her mother.

(8) 24; jute preparer. Child died at 3 weeks. Was absent month altogether at time of birth.

(9) Jute spinner. Child born in 1903, dead; one of 2½ years found alone in house, fire burning, no guard.

(10) 21; jute winder. Child year old; kept by grandmother. Mother in mill; was off work two weeks before birth and month after.

(11) Jute weaver. Child 7 months old; mother out of work at present, but has worked since shortly after confinement. Does not nurse the child; the father sends 2s. 6d. a week.

(12) 22; jute weaver. Child 3 months old. Mother works, while grandmother looks after house and baby.

(13) 23; jute preparer. Youngest child dead. Has three others with same father—6, 4, and 2 years. Out of mill just now and is sewing sacks at home. Child's father out of town a year and gives no help. Living in great dirt and squalor.

(14) Jute spinner; child born in 1903, dead. Four others, eldest 7 years. Left alone in house while mother at mill.

(15) 25; jute winder. Child died at 6 months; was off work month after confinement, and left baby with neighbour. Has child also of 7 years (different father).

(16) Jute spinner. Child 4 months old; left with grandmother; the father contributes.

(17) Jute spinner; two children, 7 years and 7 months (different father). Was off work three weeks before and three weeks after last birth. Baby with very feeble grandmother. Has had little help from the father, but none lately; earns 13s.

(18) 20; jute spinner. Child 6 months old; given out to nurse.

(19) Jute spinner; three children. Children and house dirty and ill-cared for. Nurses the child.

(20) Jute spinner. Child 6 months old, with neighbour. Mother in mill.

In point of population Dundee takes the third place among Scottish towns, but it contains a larger proportion of occupied females than any other. The total female population over ten years of Dundee as shown by the 1901 census is 72,723; and of these, 37,567, or fully 51 per cent., are returned as occupied. I have compared the figures for the eight largest towns in Scotland, and find that Paisley comes next, 41 per cent. of the 32,912 females over ten years there being occupied. Of women between the ages of twenty and forty-five, the period during which they have more particularly the claims of young children and the duties of motherhood on them, out of a total of 35,965, there are 20,761 returned as occupied, or 57·7 per cent., the only instance (taking again the eight principal towns) where the occupied exceeds the unoccupied, Paisley being again second with 43·4 per cent.

The chief employment for women in Dundee is the manufacture of jute. Under the heading of hemp and other fibrous material, the total number employed is 24,879, of whom 13,719 are between twenty and forty-five; flax and linen taking second place with 1293 employed, of whom 672 are between twenty and forty-five. (This was in 1901.)

In making inquiry into the extent and effects of the employment of mothers in factories, I visited a group of mills in the ——— quarter of the town. These may be taken as

representative. There is a district containing a large number of mills in which the lowest class of the people live and in which, I was told by the Inspector of Poor and by some mill managers, the proportion of employed mothers would be found to be larger than in those I chose and the employment altogether more casual. I found it best, even for the purpose of ascertaining numbers, to make any inquiries personally in the mills. The foremen do not know which women are married and which are not, and they cannot be relied on to get the information correctly from the workers who, in one mill where the attempt had been made, found great pleasure in giving absolutely misleading information. I therefore made my own inquiries in detail from the workers, visiting for the purpose twelve jute mills and factories in which a total of 3111 women over eighteen years of age are employed. In this way I got my information at first hand with regard to the married women, but not the unmarried mothers. In almost all cases I got the information I asked for as to numbers and ages of children and the provision made for them during absence at work, but there was of course much greater readiness on the part of some women to give me details than was shown by others. On the whole, however, the difficulty was not to get but to repress information and to avoid giving hastily the advice so eagerly asked for.

I may say that in checking these visits to the homes, in a certain number of cases I found that the information given me was, in essential details, correct. To a certain extent, however, one must discount the information as to the reason for working. There has been a great scarcity of employment for men recently in Dundee (1904), but unwillingness to work must in some cases be a reason for the man's idleness—"slackness" was, except in a few instances, the reason given by the woman.

Then one must also take into consideration (*a*) the man who, earning a fair wage, does not give a sufficient amount to his wife, who has to supplement it by her own earnings, and (*b*) the reluctance of the members of the family (as they begin to earn money) to help the general fund.

My own inquiries and the information given by the health visitors have shown that one must interpret broadly the "left in charge of a neighbour," which appears so often. The provision made for the children means often nothing more than that there is an agreement with a neighbour that she will "look in" from time to time, and does not mean that she will take the child or children into her home. In one case where this was said by the mother, I found actually her four children alone in her room—the eldest 10, the youngest under 1 year old,—the neighbour's care of them consisting of a readiness to come if she heard them cry. This practice seems in many instances to amount, however unintentionally, to "cruelty to children." Where there are children of school age, they are frequently left to themselves to find, when they come in from school at one o'clock, the food prepared for them by their mother the night before if she is a "good housewife"; but in the majority of cases the bread and margarine or jam, off which they dine. It is no uncommon sight in Dundee, the child on its way to and from school with the house door-key tied round its neck. I have not seen it elsewhere. The meal-time intervals in the mills—9–10 a.m. for breakfast and 2–3 p.m. for dinner—are of course not hours that at all suit the children, and make anything like family meals practically impossible.

Information about absence from work before and after childbirth was very difficult to obtain. . . . The physical incapacity of the woman seems in the majority of cases to cause her to leave the mill some time before the birth of the child, but that does not always mean her leaving work. In one of the cases, on being sent away by the foreman, she went elsewhere and became a "scrubber" until a fortnight before her confinement; often they become sack-sewers at home for a time, or a neighbour will take the place in the mill of the woman who has had to leave, that woman undertaking for a small sum the charge of the neighbour's children. How they live during the period of absence is a mystery; but I find that the tradesmen give credit to a surprising extent, and rents are allowed to get much into arrears. A nurse of much experience, however, said to me that great harm was done and suffering occasioned to the women by their remaining at work too long before confinement, as well as by their returning too soon after it. Factory managers, doctors, health visitors, and operatives are all agreed that the four weeks' absence is often shortened to three, two, or even less. (But see cases in "Maternity Benefit" chapter.) Several mill managers expressed the opinion that the month's absence was too short, that the woman did not get a chance, and this view is endorsed by the women themselves, however anxious they are to reduce it in practice.

Very little preference for the mill to the home was expressed among the women. The few who said they were dull at home were women without any children, or training for home duties; but in a number of cases the worker has said of the relative or neighbour who looks after her children: "She can keep them far better than I can; she has not been brought up in the mill."

The two health visitors in Dundee have, under the direction of the Medical Officer of Health, been making inquiry into the feeding of the children, and are finding that this is neither understood nor considered important. I have found a considerable number of the mothers nurse their babies irregularly, and continue to do so for more than the normal period; but this natural feeding is always supplemented by other, given without knowledge and very often without interest. I have seen many babies sharing the strong black tea of their mothers or nurses, but possibly nothing is more harmful than the dirty feeding-bottle, so constantly at their mouths.

It is not possible for me to make more than a general statement on what seems to me to be the physical consequence to the child of the conditions of its upbringing. The tiny, wizened infants who seem almost to weigh nothing at all; the little, unwashed, thin children whom one finds everywhere, crouching like little elfs in entries and stairways, sitting, on the cold days of February, on the pavement because when school is over they have nowhere to go, curled up on the kitchen fender so as to get what heat there may be—will be, those who live, the half-timers whose statements as to their age I am constantly doubting, and whose histories up to that point are records of improper feeding and housing.

Three facts have impressed me very much in making this inquiry: (1) the large number of illegitimate births amongst the textile workers, (2) the large number of births within six months of marriage. These, in the one registration district in which I made a detailed extract, outnumbered the illegitimate births. Of course, as marriage preceded the birth, the mother's occupation was not shown; but the fathers' occupations and the addresses showed that these occurred in the same class. (3) The number of cases of desertion, considerably over 100 in twelve mills whose members were considered. I have not included in these the cases in which husband and wife live apart if the man contributes to her support, but very often the wife seems to be left with the whole burden of keeping the family for little reason except that she is capable of doing it.

If she has to become the breadwinner, her wages are not sufficient to allow her to engage much help, and she has either to spend the remnant of time in working hard—cleaning, scrubbing, washing clothes—or to live in the demoralising atmosphere of an uncared-for home. In visiting homes on Saturday afternoons, I found many of the women I had come to see in the washing-houses doing the weekly wash in daylight, with the prospect of doing the house cleaning in the evening. To very many, however, the week in the mill does not leave enough energy over for much housework, and dirt and discomfort abounded, of which the women spoke with regret, but as being a matter beyond their control. Where an effort was made it was always in the direction of cleaning, and I never saw any attempt at cooking except the boiling of potatoes. Many of them seldom have any kind of meat, although fish are bought to a considerable extent and boiled with potatoes. The children get a share of everything, and eke it out with bread and tea.

Owing to the absence of the mothers in the mills, there is less opportunity for district or other philanthropic visiting in Dundee than in other towns, and little information is to be gained through these channels. The Social Union interests itself in the housing question, and does rent-collecting in various parts of the town. From one of the members I learned that in one considerable property for every two living children there was one dead; and she also, from a long experience, corroborated some of my information about wages. The absence of sufficient employment for men in Dundee and the consequent extensive employment of women with home duties is a matter she considers of very grave concern. It is making all social effort ineffectual. Teaching cookery, laundry work, care of house and children to the girls as they grow up might have good results gradually, if, when they married, they had opportunity to make use of what they had learned.

My inquiry has deepened this impression in me also. If there is actual physical deterioration in Dundee working-people, one great cause for it seems to exist in the systematic employment of mothers in mills and factories.

5. *The Relative Magnitude of the Problem in Dundee.*—The following facts from the Census of 1911 are enough to show how great the problem in Dundee is.

Married Women in Occupations

"The number of married women returned as following some remunerative occupation in Dundee is relatively large. In Edinburgh 5·1 per cent of the married women were returned as having occupation, and in Glasgow the ratio was 5·5, but in Dundee it amounts to no less than 23·4 per cent. This high ratio in Dundee is most evident among women

of child-bearing age; in Edinburgh 7·3 per cent of the married women aged between twenty and twenty-four are occupied, in Glasgow 7·5, but in Dundee 41·1; in age-group twenty-five to forty-four this ratio in Dundee is 25·2, in Edinburgh it is 5·0, and in Glasgow 5·3." (1911 *Census*, vol. i. p. 88.)

The numbers of occupied married women, and the ratios they bear to the total populations of Edinburgh, Glasgow, and Dundee, are collected in the following table.

Occupied Married Women in Edinburgh, Glasgow, and Dundee

Age-Groups.	Total Married Women.			Occupied Married Women.			Ratio per cent. of Occupied to Total.		
	Edinburgh.	Glasgow.	Dundee.	Edinburgh.	Glasgow.	Dundee.	Edinburgh.	Glasgow.	Dundee.
15–19	154	568	108	27	58	59	17·5	10·2	54·6
20–24	2,614	9,031	1,691	192	681	695	7·3	7·5	41·1
25–44	29,727	77,416	15,860	1480	4095	3991	5·0	5·3	25·2
45–64	16,524	36,938	8,619	860	2069	1620	5·2	5·6	18·8
65–69	1,328	2,519	712	47	95	58	3·5	3·8	8·1
70+	969	1,670	515	17	47	20	1·8	2·8	3·9

6. *Conclusion.*—These facts cannot be regarded as a ground-work for general conclusions. But they are enough to show that the problems of the relation between the industrial worker and her child is an indirect problem of trade organisation; that the results to mother and child are frequently of the worst kind, and that any serious effort for the conservation of the family means a drastic revision of the whole conditions of labour.

References

1. *Report on Housing and Industrial Conditions and Medical Inspection of School Children* (Dundee Social Union, 1905). Printed by John Leng & Co., Ltd., Dundee.

2. *Annual Reports* by Dr Templeman, Medical Officer of Health, Dundee.

Addendum: Legal Prohibition of Employment of Women after Childbirth

In the Factory and Workshop Act of 1901 occurs the following section:—

> "An occupier of a factory or workshop shall not knowingly allow a woman or girl to be employed therein within four weeks after she has given birth to a child."

How this clause operates is shown in the instances recorded under maternity benefit and in the notes given above by Miss Paterson. The section deals only with the period after the birth of the child.

It does not touch the question of the employment of the expectant mother. In what direc ion, if any, the restriction on employment should be safely extended, I have no data for determining, other than those recorded in the above chapter and in the chapter on maternity benefit. Expert medical opinion is far from unanimous. But from the numerous facts recorded in this Report, I cannot but infer that more inquiry is called for, and that the result of it will be a modification of the law.

CHAPTER IX

PROVISION FOR THE FEEDING OF MOTHERS AND CHILDREN

1. *Coullet Restaurants for Nursing Mothers.*—Madame Coullet, wife of a professor at Caen, thought that nursing mothers, if themselves properly fed, would be better able to nurse their babies at the breast. She went to Paris and, with a capital of ten francs, opened a small restaurant in the East End. She put up a placard saying that mothers nursing their babies at the breast would receive dinner there each day free. The mothers soon came. The restaurant excited interest, both local and general. In a short time there were several. Subscriptions kept coming in. Mothers increased. Mothers of all kinds came and received a meal on satisfying the superintendent that they were really nursing the infant at the breast. This was the sole test. The record of saved mothers and babies was good, even exceptional. This happened several years ago. It was not the first time that the feeding of nursing mothers was considered essential; but so far as I have read, this was the first time that the feeding took this form and succeeded. It is a romantic story and has affected many countries. The mothers' restaurant is now a commonplace; but it owes something to the generous initiative of Madame Coullet.

2. *The Feeding of Mothers in Scotland.*—Under the new schemes there will be considerable provision for the feeding of mothers, and the outlays on food will rank for grant. But up to now the number of restaurants has not been numerous. Probably the first were the two restaurants established by the Dundee Social Union in 1906. These no longer exist; but they have successors in the Hawkhill Restaurant for Mothers, the Lochee Restaurant for Mothers, and the Blackscroft Restaurant for Mothers. The following details are taken partly from a report by Dr Menzies and Miss Ireland, partly from the Annual Reports by Dr Templeman. The Dundee experience of the last ten years has been sufficiently definite to induce

the municipality to continue the work. In his Report for 1909, already largely quoted in connection with the employment of expectant and nursing mothers, Dr Templeman says : "It is interesting to note in this connection that the mothers who came to the restaurant bore testimony to the improvement of their milk, both in quality and quantity, which resulted from their securing at least one good meal a day." The experts are not unanimous about the relation of the feeding of the mother to the quantity and quality of her milk ; but this statement by Dr Templeman is based on actual observation and deserves every prominence. It is in accord with the Parisian experience of the Coullet restaurants. There may be many factors besides the food ; but at least this may be said, that where a mother normally is underfed, a good meal improves her capacity to suckle her child.

Now that the feeding of expectant and nursing mothers is freely undertaken, data will soon be forthcoming to let the various theories be tested. It may very well be that, in given cases, breast-feeding is more destructive to the child's life than artificial feeding well conducted ; but, normally, the mother's breast wins, outwitting all our science. The widespread failure in the mother's capacity to suckle is a problem of immense obscurity ; but the efforts to restore her capacity should exploit every reasonable method. The feeding of the expectant and nursing mother is one method. From every standpoint it is better that the child should draw its first few months of sustenance from its mother's breast. This, however, presupposes that the mother is healthy and that her teeth are sound or attended to, that she is not suffering from tuberculosis or any other infection, that she is not herself poisoned with by-products of solid or liquid foods or stimulants. It will be interesting to find whether, at the end of some years of extended observation, the capacity to suckle will benefit in any degree from the better and more judicious feeding of the expectant and the nursing mothers. It is certain that, at present, much careful investigation is wanted ; but the feeding of the underfed does not need to wait. It neither admits of argument nor requires any.

3. *Provision in Dundee.*—The following notes, which should be read with the chapter on the Dundee Scheme of Maternity and Child Welfare, show the nature of the provision for nursing mothers.

PROVISION FOR FEEDING OF MOTHERS AND CHILDREN

The Hawkhill Restaurant for Mothers.—This is provided by the Social Union. The nursing mothers in receipt of maternity benefit must pay for all dinners obtained during the first month; then, if necessitous, they are allowed free dinners for the following three months. The dinners are given on five days per week, and the charge now made is 3d. per dinner, or 1s. per week prepaid.

A grant of £50 is made towards the restaurant account from Dundee Town Council from the Common Good Fund.

The number of dinners served during the year 1915 was:—paid dinners, 2233; free dinners, 1244.

For the year ending 31st December 1915 the total expenditure was £130, 11s. 4d.; repayments by mothers, etc., amounted to £28, 17s. 9d.

Restaurants for Mothers.—In 1908 a grant of £250 was made by the Town Council from the Common Good Fund for the purpose of establishing two restaurants on the same lines as those already established by the Dundee Social Union. At the same time a sum of £50 was voted towards the support of one of those belonging to the Dundee Social Union. The municipal restaurants were opened in Lochee and Blackscroft respectively.

Blackscroft Restaurant.—The premises consist of a front shop with room behind. The front shop is the dining-room. The average number of dinners is twenty-two per day. Dinners are given on five days in the week. The charge is at present 3d. per dinner, or 1s. per week prepaid. The manageress is permitted to give to a few necessitous children under school age 1d. dinners. Free dinners are given to necessitous mothers on the instruction of the health visitor of the Social Union. A dinner is sent to the home for the first fourteen days after the birth. During the rest of the period the mother must eat the dinner at the restaurant. Expectant mothers usually begin to attend about six weeks before the birth of the child. Mothers are permitted to attend the restaurant so long as they continue to feed the baby on the breast. A three-course dinner is given. Free dinners are given to necessitous cases for a period of three months after the birth. On the day on which we visited there were three free cases and three expectant mothers. Free cases are visited regularly by voluntary visitors.

Until the clinics were opened, the mothers were invited to bring their babies to the restaurants to be weighed.

Lochee Restaurant.—The premises were a front shop and a room behind. The average number of dinners per day is twenty-six. Otherwise the conditions are similar to those prevailing at Blackscroft Restaurant. Both restaurants are open from 1 to 3.30 p.m.

There is a local committee for each, which meets once a month, the Medical Officer of Health being present.

4. *Provision in Glasgow.*—In Glasgow, a restaurant for mothers was opened also in the year 1906. The following report by Mrs Leslie Mackenzie and Miss Ireland will show the nature and scope of the work done at this restaurant.

COSY CORNER RESTAURANT, 116 GARSCUBE ROAD, COWCADDENS, GLASGOW

This temperance restaurant is managed by a branch of the Glasgow Voluntary Health Visitors' Association. It was started under the name of the Mothers' Dinner-Table at 36 Milton Lane, Cowcaddens, in the year 1906 by Mrs Hope Gordon and Mrs Somerville.

While at work in the Scottish Christian Social Union's Mothers' Club they observed "the woeful ignorance of the most elementary laws of public health," and, as a result, they offered their services to the Corporation of Glasgow and this scheme was then commenced.

On 1st January 1915 the Mothers' Dinner-Table was removed to the present premises, and the work has since been extended. Dinners are now supplied to the children of the Phœnix Park Kindergarten; a considerable number of school children and working girls and men come daily to the restaurant; and it is hoped that, in future, dinners will be served for invalids.

No financial statement is published, but a few figures were supplied by the president.

For the year ending 30th September 1916, 4999 dinners to nursing and expectant mothers have been served. The daily average number of dinners given is 200, including between 20 and 30 to mothers. The yearly turnover is £800 or more, including a grant of £50 per annum from the Corporation to cover the cost of free dinners supplied to mothers.

The restaurant is entirely self-supporting. It is open from 8 a.m. till 6.30 p.m.

The staff consists of the manager and five paid assistants.
The following is a copy of the printed Bill of Fare :—

Breakfast	Porridge and milk	2d.
	Roll and butter	1d.
	Fried egg	1d. and 2d.
Dinner	Soup or broth	1½d.
	Stew	4d. and 5d.
	Potatoes	1d.
	Pudding	1½d. and 2d.
Snacks	Tea	3d.
	Cup of tea	1d.
	Two buns	1d.
Children's Tariff	Irish stew	1d. and 2d.
	Milk pudding	1d.
	Soup or broth	1d.
	Mince and potatoes	1d. and 2d.

The accommodation consists of ground-floor (corner) shop premises with basement. The ground floor is divided by means of wooden partitions into two large rooms and two small rooms.

One of the small rooms is called the doctor's room, and is used in connection with the babies' weekly consultation. It is at the back of the building, is very tiny, and has no entrance, except through the shop. It has one window and is heated by means of a gas fire. There is a sink in the room, as well as a weighing-machine and doctor's table.

The other small room, which is not more than a passage, is used by the assistants for their own meals.

The largest room, or front shop, is where the school children and working girls have their meals. Mothers with children and some older working girls were here at the time of visit. The floor is of wood covered with linoleum, and the windows are of the usual shop type. There are eight tables with benches and chairs, and the children get the use of spoons, knives, and forks. Part of the floor space is occupied by pillars.

The large room at the back of the building is reserved from 1.45 till 2.30 p.m. for the use of expectant and nursing mothers. They pay 2½d. per meal of soup (which is prepared every day) and a meat course with vegetable. As they object to having milk pudding supplied instead of any of the above, they may purchase it separately. Expectant mothers may attend here for six months before the birth of their child, and nursing mothers for nine months after the birth. At present 70 per cent. of the mothers are soldiers' wives.

Dinner tickets are distributed by district nurses and voluntary health visitors to the most necessitous nursing and expectant mothers in their districts. A coloured ticket, stating whether dinner is to be supplied free, at a reduced price, or at the usual rate of 2½d., is sent to the manager of the restaurant, while another ticket of a corresponding colour is given to the mother.

At the time of visit, four men had the use of the women's room. It was stated that these men specially asked to be allowed to come, as they preferred the dinners supplied at this restaurant to any other they could obtain. They must leave the premises before 1.30 p.m.

5. *Provision in Edinburgh under the Edinburgh Scheme of Maternity and Child Welfare.*—Three feeding centres for mothers are provided.

6. *Provision Elsewhere.*—Probably "The Mother's Dinner-Table" has been provided in several places; but these have not been brought under our notice.

7. *General Value of Restaurants.*—These restaurants are still in the experimental stage. Possibly, in the given localities, the most

needy women come to them ; but this cannot be assumed without proof. At any rate, the restaurants in existence provide only for a small fraction of the mothers that ought to have, if not money assistance, at least some opportunity for providing themselves with carefully prepared meals. From this standpoint, the restaurants serve a good educational purpose. They are, as it were, experimental continuation classes in dining. At present the restaurants under any official scheme must confine themselves to the mothers medically certified to be necessitous. But it is probable that "pay" restaurants will also increase as time shows their value. It hardly needs saying that their value should be tested by the careful observation of individual mothers and children, not by speculative theories of the reasons for local falls in the infantile death-rate. The time has come for testing new institutions like this by scientific tests more adequate to the subtlety of the facts.

8. *The Feeding of Children.*—Infant clinics, infant health centres, baby clubs, and other varieties of organisation for infant welfare nearly all supply to the parents milk or other food for the infants. This has come to be the custom. Sometimes the food is paid for, sometimes it is given free ; but practically everywhere it is provided. But the provision, so far as I am able to ascertain, is, with one or two exceptions, confined to infants under one. The exceptions are the free breakfast tables, soup kitchens, etc., for poor children. In this inquiry we have not found any evidence of a systematic effort in any of the great centres of population to organise the feeding of pre-school children as a whole on the same lines as the feeding of school children. The child welfare centres provide for the infants, but what is done for the children of one to five is sporadic and occasional.

This is only another confirmation of the view already stated that the concentration of attention on infants under one has tended to the neglect of the children from one to five. This omission will be made good in the new schemes. Like the dinners for mothers, the provision of milk for children will henceforward rank for grant. Under the Dairies Act, which, however, is not yet in force, the Local Authorities are authorised to provide milk for children under two. Under the Notification of Births (Extension) Act provision may be made for children under five. How far the milk shall be

provided free is a matter for the Local Authority and, later, for the Local Government Board to determine. But, in principle, it is open to the Local Authority to make "such arrangements as they think fit, and as may be sanctioned by the Local Government Board."

9. *Sterilised or Pasteurised Milk.*—Many years ago several Local Authorities instituted milk depôts to provide prepared milk for infants. These depôts followed the lead of the *Goutte de Lait* institutions so familiar in Paris. The Paris institutions discharged all the functions that we now associate in this country with child welfare centres, including feeding and medical attendance. Their scope, particularly in the East End of Paris, has for years been very great. But in Scotland, for some reason not clearly ascertainable, the milk depôts have not been continued. Many years ago Glasgow established several such depôts and provided milk for hundreds of children. The depôts were kept going for a considerable period. The medical officer made inquiry into the subsequent history of the children. Ultimately, on his report, the Glasgow municipality decided to discontinue the work. The town of Leith passed through a similar experience.

In conversation with children's physicians, I have repeatedly found that they discountenance the use of sterilised or pasteurised milk. Three physicians of distinction—and their opinion is confirmed by many others—have maintained to me that, in their experience, milk sterilised or pasteurised, whether at the milk depôts or at the commercial creameries, uniformly produced a percentage of malnutrition, ending, perhaps, in pronounced scurvy. On the other hand, in cases where breast-feeding was impossible, a gynecologist and child's physician (now dead), whose scientific equipment and clinical experience were of the highest order, obtained his best results with small quantities of clean, fresh, undiluted cow's milk. This method, he assured me years ago, was gaining ground in France, and I have since then verified his statement.

Recently, Dr Jane Lane Claypon, in her book, *Milk and its Hygienic Relations*, has collated all the leading researches on the effect of boiled and pasteurised milk and has added much experimental material of her own. Her general conclusion is against the view that boiled milk produces malnutrition.

10. *Need for further Research.*—It is clear that a problem of such enormous importance to the nation cannot be left indefinitely to hover between the views of the clinical physicians and the experimental investigators. At one of the Parisian *Goutte de Lait* institutions I was informed that among 10,000 children fed on milk pasteurised at the farm, not a single case of scorbutic effects could be traced. But as certainly as the child was fed on the same milk made into a mixture according to the formula, the child in three months developed scorbutic symptoms. Perhaps I put the contrast more sharply than it was intended; but that is the substance of the very large experience of this depôt. Dr Lane Claypon takes account of such factors as milk ferments, dilution, and the like; but she holds as established the conclusion that boiled milk is nutritive and harmless. Many clinical physicians, however, do not accept the conclusion. There is here a case for a concerted investigation under the guidance of physiologists skilled in organic chemistry and clinical physicians skilled in the study of infantile malnutrition. This is not a question that can be left to an individual here and there. The investigation to be organised should be extensive enough to take account of all the many factors involved—the history of the milk, the methods of producing it, the methods of preserving it, the methods of sterilising it, the quantities of it used, the effects on the milk ferments, the history of the children, their idiosyncrasies, their general feeding, the healthiness of the parents, the mother's toxines, bacterial or other, etc., etc. Many of these factors have been, in some degree, investigated; but the main problem remains still unsolved. It is, of course, part of a much larger problem, namely, the chemical effect of cooking on living protoplasm, and the consequent physiological effect of cooked food on the nutrition of the body. The raw-meat treatment of tuberculosis is only another illustration. The late Sir Thomas Lauder Brunton maintained that cooking by heat destroyed several ferments in meat —a conclusion he established nearly forty years ago. This conclusion has been confirmed by other investigators. Hitherto, cooking has been left to the cook. How much evil comes of overcooking, no scientific man has yet told us. It is time the problem were submitted to scientific scrutiny. In spite of the many investigations now proceeding into the values of food, yet another investigation is necessary, namely, an investigation into the physiological

effects and the therapeutic value of raw milk, raw meat, raw eggs, raw vegetables, raw fruit. On some of the points, science speaks with decision: the want of fresh vegetables, the use of stale meat, and certain other conditions produce scurvy. But between scurvy (the main end-product of an intricate process of malnutrition) and the innumerable minor effects that, in their total, may be almost as destructive in the history of a life, there lies a mass of uninvestigated disease.

11. *Conclusion.*—On these, among other grounds, I consider that the whole problem of the feeding of mothers and children demands prolonged investigation.

ADDENDUM—CONTROL OF THE MILK SUPPLY

1. *Milk and Dairies (Scotland) Act*, 1914.—This Act consolidates the Milk Orders and increases the powers of Local Authorities. Among other things, a Local Authority may establish depôts for the "sale of milk specially prepared for consumption by infants under two years of age." But, by an Order of the Local Government Board, the commencement of the Act is postponed until after the war. The former Orders, therefore, continue in force.

2. *Milk Order*, 1917.—By the Milk Order, 1917, issued by the Food Controller, special powers are conferred on the Food Control Committees to buy and sell milk, to arrange for the distribution of milk in their area, to direct wholesale and retail dealers, to direct in what areas they shall deliver milk, and to issue directions for securing purity, cleanliness, and wholesomeness of milk.

3. *Milk Production Committee.*—A Committee is at present sitting to study the whole problem of milk production.

The Milk Order, 1917, is a special war measure for the protection and the better distribution of the milk-supply of the country. But it is probable that some of the methods here initiated will continue to operate in time of peace. The Milk Production Committee aims, I understand, at increasing the production and improving the methods of manufacturing milk.

4. *Investigations by Dr John Fraser and Dr A. Philp Mitchell.*—How great the need is for improving the methods of milk production and distribution is shown incidentally by the researches of Dr John Fraser on "The Relative Prevalence of Human and Bovine Types of Tubercle Bacilli in Bone and Joint Tuberculosis occurring in Children" (*Journal of Experimental Medicine*, vol. xvi., No. 4, 1912), and by the researches of Dr A. Philp Mitchell on "The Infection of Children with the Bovine Tubercle Bacillus."

The work of these two investigators is so well known that it needs only this reference. Dr Philp Mitchell has recorded his results in the special report named, and in the following subsequent papers:—"The Milk Question in Edinburgh" (*Edinburgh Medical Journal*, April 1914); "Tuberculous Milk in Edinburgh" (*British Medical Journal*, July 1914); "A Bacteriological Study of Tuberculosis of the Lymph Glands in Children" (*Edinburgh Medical Journal*, September 1914); "Primary Tuberculosis of the Faucial Tonsils in Children" (*Journal of Pathology and Bacteriology*, vol. xxi., 1917).

These two investigators began their work at the Edinburgh Royal Hospital for Sick Children. They examined the materials provided by Mr Harold Stiles from the cases of gland and bone tuberculosis operated on by him. They investigated other materials as well. The work was done at the laboratory of the Edinburgh College of Physicians, under the general direction of Professor James Ritchie. Results were so striking that similar investigations have been repeated elsewhere, and are still proceeding.

As to bone and joint tuberculosis, Dr John Fraser, as the result of the scientific study of seventy cases, concluded: "The all-important point revealed by the investigation is the fact that a large proportion of bone and joint tuberculosis occurring in children in Edinburgh owes its origin to infection by the bovine bacillus. . . . In those cases in which the human bacillus was present a considerable proportion showed a definite history

of pulmonary tuberculosis affecting a co-resident, and every fact went to prove that the infection had been a direct one from patient to child. . . . The subject is one which ought to be investigated in a series of different localities. It is possible that the *locus* may be a factor in the explanation of the difference between the above results and those of other observers. . . ."

As to cervical glands in infants and children, Dr Philp Mitchell, after the investigation of a very large number of cases, concluded: "Cow's milk containing bovine tubercle bacilli is clearly the cause of 90 per cent. of the cases of tuberculous cervical glands in infants and children residing in Edinburgh and district, and is responsible for by far the larger proportion of tuberculous cervical glands in children during the milk-drinking periods of life (0–5)."

In his latest research, Dr Mitchell finds: "The conclusions which I think are warranted by the present investigation upon primary tuberculosis of the faucial tonsils may be stated as follows:—

"1. Tuberculosis of the upper deep cervical glands develops from a primary focus in the faucial tonsils much more frequently than is generally supposed.

"2. Primary tuberculosis of the faucial tonsils can be recognised only by the aid of the microscope, and by inoculation experiments. The lesions are found in certain localities, namely, immediately under the surface epithelium and near the mouth of the lacunæ, in relation to the deeper portions of crypts, or deep in the tonsil close to the capsule. The first-mentioned site supplied the greatest number of examples.

"3. Hypertrophied faucial tonsils are the seat of primary tuberculosis, though rarely as compared with tonsils from cases of tuberculous cervical adenitis.

"4. The experimental results indicate that in Scotland, at any rate, primary tuberculosis of the faucial tonsils in children must be attributed to the drinking of milk from tuberculous cows, rather than to the inhalation of human bacilli conveyed by dried sputum or the moist spray from the coughing of a consumptive patient.

"5. Bovine and human types of tubercle bacilli are present in the tonsillar crypts of a small percentage of children without demonstrable tuberculous lesions either in the tonsils or elsewhere.

"6. Tonsillectomy is essential in all cases of tuberculous cervical enditis in children.

"7. The prognosis is very slightly influenced in children in whom the faucial tonsils and cervical glands are simultaneously affected with tuberculosis.

"8. The difficulties associated with the reform of the milk-supply and the lengthened period which must elapse before it becomes possible to obtain a tubercle-free milk demand some means of rendering milk safe. The only immediate safeguard is to be had in the sterilisation by boiling of milk for the artificial feeding of infants and the nourishment of all children."

As to the effects of sterilised milk, Dr Mitchell's view coincides generally with the conclusions set forth in detail by Dr Jane Lane Claypon:—

"I think there is an unfortunate prejudice in this country against the sterilisation of milk. Too much has been made of the effects of sterilised milk upon infants and young children, namely, infantile scurvy and rickets. In France and Germany, where this method is most popular, hundreds of thousands of children have been raised without the production of rickets and scurvy."

5. *Conclusion.*—These are some of the disquieting facts that compel attention to the milk-supply of the country. Milk for young children is a practical necessity. It ought to be free from danger. At present it is not. How difficult it is to secure a reasonably pure and wholesome milk no one can understand unless he has had to deal with the present conditions of milk production and milk distribution.

CHAPTER X

THE HOUSING OF MOTHER AND CHILD

1. *Recent Housing Investigations.*—Five years ago, a Royal Commission was appointed to inquire into the housing of the Scottish people. The Commission has collected evidence from all parts of Scotland, but the war has delayed the issue of the Report. The evidence collected will be found to contain abundant materials for the study of the housing problems of Scotland in all their variety and difficulty; but it is not yet available for public use. There are, however, many other sources of information. In the course of some thirty years of public health administration, I have had many opportunities of studying the relation of housing to the lives of mothers and children. Fourteen years ago, in the investigations conducted for the Royal Commission on Physical Training (Scotland), the conditions of the school children compelled me to consider in detail the effects of housing on child life. Later, the medical examination of 1400 children in a selected school, and the supplementary social investigation of the families concerned, resulted in masses of carefully checked information of the highest social value. This investigation was originally suggested by Mr Arthur Sherwell, M.P. The Report of it was published at the expense of the City of Edinburgh Charity Organisation Society.[1] The Report furnishes data for many careful studies of life in the family. In 1907, materials of a somewhat different order were provided in a Report and Statistical Tables published by the Scotch Education Department (Cd. 3637). This Report and Tables dealt specifically with the relation between the physique of school children and the physical conditions of the home. Below I give some of the leading conclusions.

These various studies have led me to formulate certain general conclusions. These I focussed in a paper on "The Child of the One-Room House," read, by request, at the Liverpool Annual Con-

[1] *Report on the Physical Condition of 1400 School Children in the City, together with some Account of their Homes and Surroundings.* London: P. S. King & Son, 1906. Price 5s.

ference of the British Child Study Society. This paper touches intimately the physical welfare of mothers and children, and is here, by permission of the editor of *Child Study*, partially reproduced. It was intended to show the extraordinarily subtle relations between the child and the environment, a social problem most easily studied in the "marginal case." The general conclusions of the paper I supplement by statistical quantities from the rich material of Edinburgh and Glasgow.

I. The Child of the One-Room House

Usually, houses are classified according to the number of people they house. But this gives no idea of the house as a home. To be a home the house must be the home of a family. The family is a composite unity, having within itself all the elements of the potential city and requiring for its functional growth and expansion all the institutions that in their total constitute the actual city. This fact is too little realised. The house is supposed to stop outside the door. But lay aside for a moment those rigid ideas about stone and lime, or bricks and mortar, or wood and iron, or stones and peat, or stones and sand, or even about caves in the rock. All of these types of houses are, in Scotland at least, found to be occupied by human beings. Consider the house only as the focus of family energies, as a home. If you analyse what the family energies are, you will find that they must reach out in a thousand directions in order that the family may, as the growing unit of civilisation, subsist at all. If the crude idea of a house were true, the most perfect house would be the prison-cell, where everything is brought to the inmate without any trouble to him—or her.

As a fact, the home is the precise contrary of this. Nothing comes in except what the family goes out to seek. The house is simply the temporary work-place, the nesting place, of the family. Our ideas about it are much too crude ; for we always tend to think of it in terms of dead walls and groups of rooms and furniture, instead of in terms of living minds and hearts, and desires, and ambitions, and irrepressible growths and activities. If the members of a family were all wooden blocks, it would be easy to arrange them neatly in a cellar. But in the scores of cellar dwellings I have visited, I never found a single contented family. The blocks happen to be alive, and never stay where they are put. The family is a raging torrent of hungers and ideals. And this is true of every family—rich and poor.

If, therefore, you consider the house not as a rigid structure, but as a focus of energies—a fixed focus like a feudal castle, or a moving focus like a gypsy-van—you can picture more clearly what the housing problem means. If, for a family of five people in the middle classes, it is necessary to have at least five rooms, and as many more rooms, large and small, for service, how shall the energies of a family of five persons on the lower economic levels be adequately spaced in a single room ?

But it is necessary to be a little more specific. Houses can be classified according to the families they accommodate ; but they can also be classified

according to the effects on the child. If the family is the growing point of society, the child is the growing point of the family. If you cannot understand social institutions until you realise that they have their roots in the needs of the family, neither can you understand the functions of the family without realising that they have their roots in the needs of the child.

The one-room house need not mean literally a house of only one room. The same physical conditions may be generated in a house of two, or three, or more rooms ; but what I intend to express is the conditions of overcrowding that normally occur in the one- and two-room houses of the poor in the city and in the country. Functionally, the two-room house may be really a one-room house, since the one room is frequently the living- and sleeping-room, and the extra room is not used except for ceremonial purposes and storage. We need not, therefore, be too narrow in our interpretation of the one room as one room. It is the conditions that would normally occur when the one room is put to all the rich uses of a house that I mean to indicate and to argue from. Nor need we be too arbitrary in our ideas of what is due to the residents of one room. I have seen one-room houses that fulfilled perfectly all the primary uses of a house ; but I have rarely seen this where the family exceeded three people—a father, mother, and child, or three people of one sex. If there is anything fundamentally important in the early separation of the sexes, and we can hardly doubt that there is, then the one-room house has a very limited range of good work in any community. And conditions should not be such that people are forced into houses where moral abominations are justified by a theory of economic necessity.

Why do we choose the one-room child for the focus of our observation ? The reason is easily given. It is because he is an extreme, but a real case. If you are to have a house at all, you cannot have much less than one room. This is the housing limit for a family. The one-room house is a serious factor in our present city development. Of the causes that have led to the production of the one-room house I say nothing, nor of the ideals that impel to the continuation and extension of it, nor of the many proposals for its abolition. At the moment, these points do not concern us. Our primary interest is the natural history of life in one room. And, of course, when I say life I mean the life of the family, not merely the life of the individual. For a long time or for a short time, the one-room house is with us. The census leaves no doubt on that point.

It is, I believe, true that in Scotland the percentage of one-room houses is greater than in England, and it is suggested that the reason is : first, that the Englishman has a higher conception of personal comfort ; and second, that he is not afraid to demand what he wants ; and third, that he gets it. I have no great confidence in the adequacy of these national generalities ; but, whatever be the case in England, the one-room house is a very serious factor in the life of Scotland. Whatever housing reforms the immediate future may reveal, the one-room house is not going to disappear in a day ; but in its disappearance the one-room child will play an effective part, for he is demanding more room ; he is battering at the walls that he may have more space to breathe ; he is clearing an area round his slum that he may have more light to see by ; he is crying and dying in a constant warfare that he may compel his parents to provide for him more adequate conditions

of life. This little creature of sensations and a future has got hold of the reins and is driving the family with all his force. He means to go where he can have a room of his own. It is difficult to discover anything extraordinary in his ambition.

As I do not much believe in abstractions, let us first steady our minds with a few concrete cases, not invented or constructed out of averages, but taken from an actual research. What follows is the record of things seen by competent people, who knew how to look at the facts and how to put the primary matters down on paper. They all had some experience in this class of observation, and the facts recorded are too precise to permit of great exaggeration, even if there had been any natural tendency to exaggerate. The medical parts were done by scientific specialists, whose every day for years had been spent in the practice of exact observation.

(1) A house of one room ; family of seven persons—one parent ; three males, aged 18, 16, 8 ; two females, aged 20 and 13. The number of habitual occupants of the house, five. Size of room, 1639 cubic feet. Of the two school children, one suffered from adenoids and enlarged tonsils, the other had swollen neck-glands ; one flea-bitten, but had clean hair.

The comment of the observer is : " A bad home. Woman twice married ; second husband deserted her six or seven years ago, and she now keeps a bad house, in which much drinking and rioting goes on. Daughter on stage sends 10s. a week ; son is out of work. A son in an institution. All as filthy as is the house. The food is irregular. Two children have had free dinners from school this and last winter ; clothes were also given for one each time. The boy attends regularly. The woman is a hard drinker, and gets money in undesirable ways. Evidence from Police, School Charity, Headmistress, School Officers, and Doctors."

(2) House of one room ; one parent ; one son of 25 ; one daughter of 14 ; father lives apart. The comments of the observer are : " The drinking capacity of this family cannot be too much emphasised. The parents can't agree and live apart, the man allowing 7s. 6d. a week when girl is with mother, and 5s. when she comes to him. She is verminous, and very badly kept. Mother can't get charing, as she lives in so bad a neighbourhood, so means to move ; at present she keeps other women's babies at 6d. a day each. Elder boy out of work, a tidy lad, reads in Free Library. House not so very untidy. Evidence from Police, Church, and Officer."

(3) House of one room ; two parents ; males aged 15, 11, and 6 ; female aged 13. In this family there were four wage-earners. One boy and one girl sell newspapers. The boy suffers from enlarged tonsils and adenoids. Both boy and girl were flea-bitten. The comments of the observer are : " An intemperate pair. Husband only in irregular employment of late ; has been locked up for neglect of children (who are regular at school), and an improvement in general condition is now noted. Free food and boots for three granted. Father has since been locked up for three months for assault on his wife and step-son. Two of the four surviving children (four being dead) add something to the weekly income, their respective ages being 15 and 13. Evidence from School Charity, Headmistress, Chief Constable, S.P.C.C. Branch, Factor, Doctors, and Police Court."

(4) House of one room ; both parents ; boy aged 4 ; girl aged 6. The

girl suffered from enlarged glands and had a hæmic murmur of the heart. The comments of the observer are : " Both husband and wife are given to drink, and separated at times. The two children, though delicate, are well kept. Evidence from Church, Club, Headmistress, Police, and Doctors."

(5) House of one room ; both parents ; boy aged 4 ; girls aged 8 and 6. One girl suffered from chronic ear disease, enlarged tonsils and adenoids, enlarged glands, hair with nits, badly bitten. The other girl had enlarged glands, hair with nits, and general pediculosis, badly bitten. The comments of the observer are : " Family of three children living with parents. Father earns good wage, but casually ; mother earns a little. Does not keep her children nor house particularly well ; neither are her children sent regularly to school. Evidence from Church, Employer, Headmistress, Police, and Doctors."

But these, you may say, are somewhat crowded houses. Here is one with a single child :—

(6) House of one room ; one parent ; one girl, aged 8. Comments of the observer are : " Very bad home, all sorts of visitors come and go. Woman drinks, and so do her friends. Child weakly, ill fed. Illegitimate baby. Very filthy house, atmosphere appalling ; clothes hanging to dry from ceiling. Food and income and everything else very erratic. Widow gets a bad police report. Evidence from Police."

(7) House of one room ; both parents ; three boys, aged 13, 12, and 3 weeks ; three girls, aged 10, 7, and 2. Two boys at school were found dull, irregular in their attendance, unclean, fearfully bitten and scratched ; one of them suffering from enlarged tonsils and adenoids, with heart disease. The girls, also dull and irregular in attendance, showed pediculosis of the hair. They were badly bitten and scratched ; one had bronchitis and suffered from seborrhœa on the face, and was also badly bitten. Comments of the observer are : " Both parents drink a good deal, and man twice convicted lately. Children attend a lot of church meetings, are delicate, and irregularly and ill fed. Very irregular at school. Two boys earn 5s. and 7s. 6d. a week. Very early marriage, 20 and 19. Used to be insured ; have lost two children. Fairly tidy and clean, and children get baths. Evidence from Doctors, Schoolmaster, Police, Parish Sister, Club, Children's Employment."

Take two other examples :—

(8) House of one room ; two adults, married ; two step-brothers, aged 13 and 2. Comments of the observer are : " Model young couple living in one airy room, cleanly kept, high up, taking in wife's father and brothers at meal times. Received coals and meal from Church. Evidence from Employer, Churches, Police, and Doctors."

(9) House of one room ; both parents ; two boys, aged 13 and 11 ; one girl, aged 1. The comments of the observer are : " Living in miserable, cold attic. Husband, a slipper maker, locked up for six weeks, having neglected his family. (Since this visitor's report he has been in prison for stealing slipper material.) Mother charing, but hard put to it. Free dinners, boots for two granted by School Committee ; boys' clothes granted from special fund. Evidence from Employer, Schoolmaster, and Charity."

These few excerpts from a record of facts should be enough to check our

deductions and keep us from extreme views. But here are two other cases of another kind from another city :—

This is a case of pulmonary tuberculosis. "Patient, a boy, aged 5, suffers from rickets in severe degree and has never been able to walk. He has a bad cough and spit, and so is probably a source of danger to the other members of the family. The house is of two rooms, and moderately dirty. The window was about one inch open. There are in the house the parents and eight children, the oldest 17, the youngest 3 weeks. There are three beds ; the bedding is very scanty. In addition, there is a cot, in which the patient sleeps alone. The father has a fairly regular income. The rent is £9 a year. The parents have applied for the patient's admission to a home, but it was refused on the ground that the boy had phthisis."

In another case (a girl, aged 3) : "The environment and the circumstances generally are of the worst. The house, of one room, is situated in a gaunt and gloomy street, and is reached by an extremely filthy stair, upon which children are playing. The house itself is indescribably filthy and foul-smelling. A baby, male, aged 13 months, had died of whooping-cough a few days before my first visit. His case had been notified about two months before. The present patient, a pallid and weary child, has cough, with 'weak back' and 'congestion of the lungs.' The mother adds, with a strange mixture of apathy and tenderness, 'She won't trouble us long.' The occupants of this house were the parents, the sick child, and, until he died, the baby boy. Four older children are said to sleep with an aunt or grandmother ; but, as she goes out to work, they spend the day at home playing on the stair. The window of the room is 3 inches open at the top. In a dark recess there is an apology for a bed ; only a mattress and a few rags, those that were originally white and those that were always black being now of similar hue. The boy who died slept in a bed-chair, they said. Ashes, paper, and rubbish of all sorts litter the floor. The father is in regular employment ; he earns from 22s. to 24s. a week, and keeps only 2s. for his own purposes. The rent is 9s. 3d. a month."

This study in the blackening of white is typical. Recently, a Recovery School child from Edinburgh screamed with terror when she was put into a bed with clean sheets. She had probably never seen a white sheet except around a dead body. It is certain that in the district she came from the terrors of death are visualised in white sheets.

Let me here say that the one-room house has not everywhere the same significance. In the open country, or country village, the one-room is really not the only living-place. It is merely a place to repair to for meals and sleep, a point of outlook on unlimited space. Except for a short time of each day, the children are not confined to the house, not even as much as they are confined to a room at school. It is at least possible for them to have healthy spaces to play in, sometimes trees to climb, fences to go through, woods to get lost in, hills to tumble down on, streams to fish in and wet their clothes in, rabbits to chase, dogs to fondle, birds to listen to, bushes to burn, stones to throw—in a word, unending opportunities for activity without fear of the police. The quietest country boy, if he continued in the town his most ordinary behaviour in the country, would be up at the Police Court in twenty-four

hours. The one-room house of the country leaves a great deal to be desired, but it need not be the miserable refuge that the one-room of the industrial city so often is.

There are many classes of the one-room population. They are not all of the same grade nor of the same origin. In the towns there is a class due to the subsidence of certain elements of the other classes; and in the country, too, there are several classes. For instance, there are the dwellers in the rural single-room cottages, where the freedom of the surroundings is the equivalent of a larger dwelling, where living is easy and clean, and the neighbours are not too numerous. There one finds as good social results in the one-room house as in any other house. The ménage is small as a rule: two persons, or three.

But come into the mining quarters and the one-room house changes its character. There is overcrowding in spite of all that is said or done. The exactions of labour harden the custom of earlier ideals of comfort, and cheapness acts as a fixer. In many places the mining population seems not yet entirely to have shaken off the moral traditions of serfdom, and seem contented with conditions of life that do not in the least correspond to the same wages in the cities. This is a problem by itself. But there are signs of change.

The children frequently do not seem to suffer much in nutrition or in vigour. They have as a rule plenty of food, and on the whole the open country more than makes up for the closed room. If you doubt this, go through a Fifeshire mining village when the schools have broken loose, and you will not again raise the question. There are, of course, poor specimens, but the general truth is what I say. Let it be remembered that where the labour is active and strenuous the parents must be strong, and the children have a good biological start. But even to this the exceptions are many.

The theoretical one-room house is not the same as the actual one-room house. It is easy enough to find in the clean country, where life is slow, or in the small town, where life is less pressed, specimens of the successful one-room house where all the decencies of life can be, within limits, honoured, and where character does not seriously suffer from want of room. But take the one-room house as it is actually used. For instance, take the case of a one-room house, with a patient suffering from advanced tuberculosis of the lungs. There are two other adults, married; two grown-up children, a son and a daughter, and three young children. They all live and sleep in the one room. Can you say that in such a case the one-room house is a name for anything but human degradation, failure to realise the finer issues of daily life—anything but a beastlike establishment that ought to be wiped out of existence?

We may deduce certain propositions from the masses of recorded observations of one-room houses in the great cities:—

(1) *The One-Room Family cannot Feed the One-Room Child properly.*—Given home circumstances like those I have detailed, how shall it be possible for a child to have so many regular and regulated meals a day? And if he has not these, how shall he grow? If the mother is not efficient, and if the father is out working, how and when will the child be fed?

It is not exactly a question of mere want of money. That, in some cases,

may be a cause of the neglect. But in many cases it is not, and yet the neglect is quite as great as if there were no money available. It is bad management. It is bad organisation. It is want of interest in the child—want of interest in his character, in his attainments, in his future, in his present. The child is an incident of the mother's and father's life, not an object of care and anxious nurture.

But where the ethical life is so low down, the physical life is also low down, and you will not readily get a well-fed child there if he has had to rely on his home for his feeding. Which is cause, which is effect, is a matter for speculative analysis. But low physical potential and low ethical potential go together. Regular feeding in a civilised family is a late acquisition of the race, which no longer relies on the casual food to be hunted for by individuals in the open world of nature, but must rely on organisation, on forethought, on the correlated energies of tens of thousands of men and women, if food is to be found at all. This view the war has driven home by high prices and hunger.

The one-room house lies on the margin of possible life in the great city. The city is itself an organisation to protect the family from extinction. The one-room is the last refuge of the civilised family threatened with extinction. The function of the house is to keep the child alive. But the one-room family sometimes fails even to keep the child alive, and always fails to exploit his powers to the full. But the home finds its instruments in the expansions of the city organisation, which, as it grows in specialisation, makes, on every economic level, a more and more adequate family life possible.

From this point of view, the city is a protective growth produced by the family instinct to secure survival, and, as the child must be at all costs kept alive, the city becomes the protective cradle of the new-born infant.

(2) *The One-Room Family cannot Clean or Clothe the One-Room Child properly.*—The conditions that lead to poor feeding lead also to insufficient clothing. Like food, clothing is always a function of interest in the child. Where the interest sinks to zero, the clothing is allowed to deteriorate into rags. The child's body is also neglected. It is never systematically washed. Indeed, the one-room child never enjoys system at any point of its life-history.

In the one-room family one fundamental principle of Froebel is always realised: the child is allowed to do as it wishes. But the garden for its energies is filled with dirty human beings, not with the clean things of Nature; a hotbed of foul human smells, not a flower-bed of beautiful colours and scents. The child is a casual from the cradle, and probably the rocking of the cradle is the only rhythm it has known at the hands of a parent. But in many a one-room house there is no space for a cradle, and even the earliest sleep is often the sleep of a poisoned brain, not of natural fatigue.

(3) *The One-Room Family cannot procure Sleep enough for the One-Room Child.*—That is certain. Wherever adults and children occupy the same room, the children suffer necessarily. For the periodicities of the adult person are quite different from the periodicities of the child. The adult needs less sleep; he has more resistance. He has greater capacity to alter his surroundings and defend himself from injuries of every kind—bad air, dirt, noise. The infant is more susceptible and yet weaker. He is more vulnerable,

yet he has less power to take himself away from bad conditions. He has to rely on others for everything: food, clothes, washing, sleep. He sleeps at different hours from his older brothers and sisters, and they from the father and mother. The movements of sleep are never the same in any two persons, and, where more than one lies in the same bed, there is always some nervous unrest. In the sleeping condition, probably, the nervous system is even more susceptible to suggestion than in the waking state, where the tension (the "threshold value") is higher. We may say on general grounds that, when several people of different ages house all night together in one room, rest for the child is a blank impossibility. But without rest of the nervous system, the whole body suffers. The whole nutrition in subtle ways is upset and perverted.

But the sleep problem is complex. A child's small body often needs more warmth than the empty bed affords. A member of the Edinburgh Child Study Society, who has done much holiday-home work, told me, when I read this part to her, that on one occasion a boy protested against being placed in a bed alone, saying: "I canna sleep in this bed; I'm wanting my mother, and Jeannie, and my twa aunties." I do not say the child was right in his judgment of the correct number; but his opinion about his sensations was final, and that opinion must be scientifically interpreted. Education in habits of sleep is as important as it is in habits of self-discipline, of which, indeed, it forms a part.

(4) *The One-Room Family cannot Educate the One-Room Child.*—We may go much further than this. No family, whatever the number of the rooms in the house, can educate any kind of child. This is not a fact limited to the poor. It is universally true. Among the poor, however, it is so obvious that no one can deny it. But if you think of it, you will find it equally undeniable for the upper wealthy, the middle wealthy, the lower wealthy of every grade. Why should it be so?

The question is a matter for a separate paper. But, briefly, the answer is that education, as we understand it, in the more recent stages of the civilisation of the western world, is really the foreshortening of the whole period of developmental adaptation to a very complex life, and this adaptation has to be accomplished within a few years if the child is to survive as an approximately fit citizen.

But the life he must learn is far too complex to be learned in the family, however efficient. No one father and mother, be they ever so learned, can give the atmosphere or the organisation needed to open up the mind of the child to the many influences he will have to work among in later life. In fact, it takes at least a hundred thousand people to bring up one boy. You need the care of the city; you need companionship; you need the subtle stimulus of the child's contemporary. This no family of physiological father and mother can ever provide.

We need not, therefore, blame the one-room alone for an inefficiency that is common to every house of two parents and a child. But in the one-room house the conditions are so marked that they are unmistakable. The evil effects are so strong that the problem of education becomes infinitely more difficult. Even the little that an efficient family on the higher level can do, and do well, the one-room family cannot do at all, or does badly.

The first impulse of every person that enters a one-room overcrowded with children is to clear the whole lot out into the open air. But the impulse usually goes no further. It dies in pity. The visitor for a short time utters wild revolutionary ideas about the disgrace of such places, the thriftlessness of the occupants, the advisability of drowning the mothers, the absolute necessity for flogging the fathers, and many things equally gratifying to the destructive emotions and equally futile in their results. One thing he always forgets, namely, that he has not asked himself the question: What share have I had in producing these conditions? As time goes on the visitor gets indifferent, or the current of pity goes under the surface, and there generates a set despair that paralyses effort and kills the desire of good, leaving, perhaps, a trace of satisfaction that he is not like "those people." "It is sweet, when on the great sea the winds trouble its waters, to behold from land another's deep distress; not that it is a pleasure and delight that any should be afflicted, but because it is sweet to see from what evils you are yourself exempt."

Perhaps if we realise steadily that no one family of three people is fit to do what the child requires if he is to become a citizen, we shall be less ready to despair of the possibilities of social organisation. The cool science of the facts will help us to develop what is possible, whether it be the ultimate best or not. It is certain that education of any but the worst kind is not possible in the ordinary one-room house I have described to you. As a child-study society (and all society is a child-study society), we must look for the means of exploiting whatever elements of positive good we can find.

(5) *The One-Room House cannot become a Home.*—This is a hard saying, but I think it is, on the whole, true. The few exceptions to it are striking enough rather to confirm than to contradict the proposition. But let us go further. Even the two- and three-roomed houses are rarely homes in the true sense except for moments now and again. These are the moments we wish to make permanent.

If the one-room house were always the one-room house of the country places, or small towns, there would be less to say against it; for there you will often find the one-room occupied by clean and clean-minded, strong people, who can make the houses subserve the uses of life without sacrificing character or putting the moral life of their children in danger of degradation. But even in those towns and villages the conditions are accepted by the better man and woman simply out of necessity. In one instance I found a fine type of young miner washing himself after coming from his shift. The one-room house was a very poor one. It had no presses, or cupboards, or conveniences of any kind; there was nothing but the bare four walls, and of these one was very damp, being built against the earth at the back. He was a man of fine colour of face and vigour of body. He apologised for the house, saying that he meant to get a better as soon as it was possible. He added, "We are just a young married couple," and indicated that this would serve until better accommodation was available. There were as yet no children.

But these two are beginning life in the glory of youth and health and strength. He looked a young Viking, confident of success. His blue eyes, his delicate pink and white complexion, his fine hair, his good teeth, all spoke of a fine racial inheritance. Such as he achieve a good life almost anywhere;

but the day of stress and unemployment will come. The ways of the house will get too hard for the young mother. The necessities of nurture for one, for two, for three, for five, or more children will test father and mother to the last recesses of their moral powers ; but there is something to hope from the fact that the one-room house is accepted only as the beginning.

In a Scottish colliery village I went one day into a house of one room. The inmates were a widow, her daughter aged sixteen, her son a little younger. The daughter had been working at the pithead since the day after she was fourteen. She was a handsome, strong girl, and equal to the load that fate had placed upon her. The one-room house was admirably kept. No fault could be found with it from the standpoint of the personal efficiency of the inmates. But the girl communicated to one of us that she had advised her mother that they should now get a house of two rooms at least. The day of her womanhood had in this way announced itself, and the light of a greater interest than her mother's home was dawning in her aspect. It is not always that the deeper impulses speak in this imperative way to the budding woman ; but the voice when it is heard cannot be mistaken for any other.

. . . . . .

At a certain stage, the normal thing for a one-room child to do is to run away. The poorer the nest, the earlier the flight. If he can put up with the stench and the degradation of the crowded one-room house, it is because he vaguely feels that some house-room is in the end better than none. It is not because the home is a fit place for him to live in. But the magnetism of mother-love, of the child for the mother and the mother for the child, can always be counted on, and the normal runaway, when the go-impulse has spent itself, always " wishes he was home." One poor holiday-home child said to a newcomer : " It's a fine place this. There's a denner here *every* day. It would be a fine place if a body jist hed his mither." He had been *sent* there ; but he would have felt the same if he had gone of his own impulse into the larger world, as so many go.

Our reformatories and industrial schools must include a big proportion of runaways and stowaways. " But I was aye a truant bird, and thought my home a cage," sang the " Dying Soldier." He would to-day be in danger of being called " feeble-minded," and " segregated " accordingly. Segregation is convenient ; but is it the remedy ? Is there not something to be said in favour of the runaway from the crowded one-room house ? I am not thinking of the fatherless and motherless, but only of the " crowded-out " child.

In the one-room family the children ripen early in mind, or at least they take on the form of the adult habits with exceptional rapidity, because they see little else with equal intimacy. No doubt the child, knowing no other nurture, lives there ungrudgingly until he tastes the freedom of company in the streets, or fathoms the delight of the economic independence that comes with his first money. Then the failure of the one-room home is manifest.

Recently a whole Act of Parliament was devoted to the stopping of street employment, and since that discussion died down, Parliament has brought nearly all the acts for the protection of children into one of greater extent and effectiveness. The problems that call for this terrible legislation have their immediate root in the one-room house and all it stands for, or perhaps

we may more accurately say the one-room house is the crossing where all these broken currents of social life may most easily be studied.

In the Children Act there are some signs of an effort to adapt the blunt processes of the law to the psychology of the child. Some superstitions about the effect of gross punishment go by the board. For example, no child under fourteen can now be sent to prison. But children may still be sentenced to whipping, and the right of the parent, the teacher, and any authorised guardian to inflict punishment (by whipping or otherwise) is carefully reserved. To order an incisive pain for a very young sinner is, no doubt, to nourish the sense of majesty in the magistrate ; to inflict the pain is, no doubt, to create a greater sense of justice to others in the inflictor, and to hurt the child without permanent visible damage has from time immemorial been the mainstay of " parental responsibility."

So one begins to wonder why it should now be necessary to preserve those ancient common-law rights by a specific clause in a statute. There may, there surely must, be some danger that whipping shall deteriorate in quantity or in quality, or in both. For my part, much as I should wish to see the weak points of the family strengthened, I have some doubt whether the unspared rod, or the gratifying birch, or the sounding strap is an adequate remedy for the moral and physical disorders that flow in a foul stream from the one-room house. Hitherto, pain in this form has been a failure. It would be interesting to study why, all the same, it is universally regarded as a success.

If there is anything in the speculations and arguments of Freud in reference to the first two or three years of life, it is this : that the animal conditions governing these years do determine largely the future of the moral life of the child. Mothers do not always know this, and fathers have not always the time, if they have the capacity, to think of it, and in the rush of the one-room house only the rough work of keeping the child going counts for anything in the day's duties. The child grows up anyhow, with any kind of relationship to its fellows.

Perhaps the very neglect is sometimes an advantage ; for the effects of overnursing and overnurture may be themselves more harmful in establishing the animal tendencies on too warm a foundation of sensation, and thus leading in after life to biases that are destructive to the character.

But it seems reasonable to say that the bringing up of a child in pure promiscuity among adults is much more likely to prepare the soil for perversions of every kind than the bringing of him up in controllable conditions of decency and direction. The nervous systems of the ill-nourished tend to be unstable from the start, and what is prepared in ill-feeding, overstimulation, and undersleeping is reaped in after-irritability and moral anarchism. " Let me have men about me that are fat," said Julius Cæsar, " sleek-headed men and such as sleep o' night " ; but, anyhow, give us fat children.

. . . . . .

II. Housing and the Death-Rates

(1) *The One-Room House as Marginal Case.*—The generalities I suggest as the result of this concrete study of the one-room house can be supported

by a great deal of statistical material. The one-room house is the marginal case; but that is precisely what makes it the most important for critical study. For it has become the marginal case mainly as the result of economic conditions. Here, as in so many other sections of economics, the concept of the "margin," as specially developed by Professor Marshall, is of the greatest service for the interpretation of problems outside immediate economics. The one-room house, it is true, is only on the margin; it is not the actual margin. Beyond it lie the rural nomads, who carry their tents with them in the free air; the casual tramps, who journey from refuge to refuge; the city derelicts, who sleep in common stairs and lobbies. But of all these, the total is only a small fraction of the population of Scotland. The one-room house population, on the contrary, amounted, at the 1911 Census, to some 400,000 persons of all varieties of industrial efficiency. The one-room house, therefore, is the real margin for the study of the housing problem as it affects mothers and children.

(2) *Glasgow Statistical Studies.*—Dr Chalmers, Medical Officer of Health for Glasgow, has presented several statistical studies of Glasgow housing. He has discussed at various times, from various standpoints, the relation of housing to the general death-rate, the tuberculosis death-rate, the infantile death-rate, and the death-rate of children from one to five.[1] These studies it is not possible to discuss fully here, but the references are appended for those concerned to follow this vast problem into further detail. Here I select only two or three illustrations.

(3) *Excess of Children in One-Room Houses.*—As far back as 1901 Dr Chalmers, in his analysis, had shown that the general death-rate in the one-room houses was much higher than in houses of two rooms or more, and that, contrary to common belief, the one-room houses were disproportionately occupied by children under five. The figures he presented in 1901 are important and interesting; but, later, he worked out the same problem on the basis of the Census of 1911. The suggestions for which his data were in 1901 only partial, became in 1911 reasonably grounded conclusions. "The element which was lacking in the 1901 inquiry, I have now been able to obtain from the 1911 census, and the first scrutiny of the age distribution suggested that a very considerable portion of the difference in the death-rate could be ascribed to the larger proportion of children in the smaller houses. It showed, for example, that while 11 per cent. of the total population consisted of children under five years; in the one-apartment population they formed almost 19 per cent., and in the two-apartment almost 14 per cent., while in houses of three and four apartments and upwards the proportions were 7 and 4 per cent. respectively." (The census population of the Glasgow here spoken of was 784,496. The administrative areas have now been altered; but for the purpose of our illustration the figures of the former Glasgow are equally satisfactory.) The high general death-rate in the one-room houses was thus, in part, assignable to the larger proportion of children under five. But Dr Chalmers says: "As during the last twenty-five years the death-rate of children under five has fallen from 86 to 60 per thousand for boys, and from 76 to 49 for girls, there is ground for regarding the decline in the death-rate of the last decennium as resulting

[1] *The House as a Contributory Factor in the Death-Rate,* p. 6.

to a considerable extent from a reduction in the rate among the inhabitants of the smaller-sized houses." [1]

(4) *Male and Female Death-Rates.*—Dr Chalmers found that females at all ages have a rate of 25 per thousand in one-apartment houses; 16 per thousand in two-apartment houses; 11 per thousand in three-apartment houses; 9 per thousand in houses of four-apartments and upwards; and 45 per thousand in institutions. For males the corresponding rates are 27, 17, 12, 13, and 37. "At each age-period also, as a rule, the death-rate is lower as the house increases in size, the main differences being at the later ages when, as I have suggested, the drift to institutions has become established." [2] He also points out that at the several age-periods the male rate "usually exceeds the female." [3] But there are important exceptions. Of these exceptions, one bears very closely on the whole problem of the physical welfare of mothers and children. It is found that in one-apartment houses the female death-rate exceeds the male death-rate at the ages of fifteen to forty-five; in two-apartment houses the female death-rate exceeds the male at the ages of twenty to forty-five. "Puerperal fever and septic diseases prevail among females at these ages, while phthisis contributes partly to the excess at ages twenty to forty-five. In three-apartment houses the excess is confined to ages five to fifteen, when the female phthisis rate exceeds that of males." [4] Dr Chalmers concludes: "Generally, therefore, the analysis, I think, warrants the suggestion that the variations in the death-rate at all ages associated with houses differing in size are not to be explained by simple differences in age and sex constitution." [5] In other words, the immediate environment, as realised in the one-room house, has a definitely destructive effect on the lives of occupants, particularly on the lives of the mothers and children under five.

(5) *Infantile and Child Death-Rates.*—This conclusion can also be expressed in exact quantities. For children under one the death-rate was found to be as follows: In one-apartment houses, 210 per thousand births; in two-apartment houses, 164 per thousand births; in three-apartment houses, 129 per thousand births; in four-apartment houses and upwards, 103 per thousand births. For the children of one to five the corresponding death-rates were 41, 30, 18, and 10. The differences between those rates are too pronounced to be explained on any other hypothesis than that life in a one-room house is more dangerous than life in houses of greater capacity. Dr Chalmers says: "The contrasts in the rates at each age-period associated with the house-groups here shown are sufficiently striking; but what seems to me to be of almost equal significance is the rapid improvement in the rate at ages one to five in three- and four-apartment houses. Under one year the four-apartment rate is still equal to one-half the one-apartment rate; but during the next four years the resistance of the child in three- and four-apartment houses to fatal disease increases so rapidly, or the risks of contracting infectious diseases are so diminished, that the death-rates among children in three-apartment houses is less than one-half, and in four-apartment houses only one-fourth that of one-apartment children." [6]

[1] *The House as a Contributory Factor in the Death-Rate*, p. 7. [2] *Ibid.*, p. 9.
[3] *Ibid.*, p. 9. [4] *Ibid.*, p. 7. [5] *Ibid.*, p. 9. [6] *Ibid.*, p. 13.

(6) *Death-Rates from Special Diseases.*—When these death-rates are further analysed and traced to their special causes, the general result is found to be the same. Thus measles, whooping-cough, and diphtheria show for males under one the following death-rates: In one-apartment houses, 23 per thousand; in two-apartment houses, 18 per thousand; in three-apartment houses, 10 per thousand; in four-apartment houses and upwards, 5 per thousand. For males from one to five the corresponding death-rates were 16, 11, 6, 2. In the case of scarlet fever the one-apartment death-rate was only 0·28 per thousand, as against 0·32 for two and three apartments, the scarlet fever death-rate for males under one; but for males of from one to five the corresponding death-rate was 1·26, 0·97, 0·22.

These figures might be further discussed, but they indicate that, from the standpoint of death and certain infectious diseases, the general verdict is against the one-room house.

(7) *Edinburgh Statistical Study.*—Dr Maxwell Williamson, Medical Officer of Health, Edinburgh, has dealt with the "housing evil" in a paper on "The Influence of Housing on Health," read before the Scottish Labour Housing Association at Glasgow in January 1917. Dr Williamson discusses the special conditions of Edinburgh, but he gives certain comparative figures, which are arranged in a way convenient for citation.

"In the city of Glasgow I find that 13·8 per cent. of the population live in houses of one room. That may be bad enough, but the housing problem takes on a more serious aspect when we try to realise that actually over 62 per cent. of the population spend their lives in houses consisting of one or two rooms.

"In Edinburgh the proportions are lower, although sufficiently urgent to call for serious consideration. There, 6·1 per cent. of the population live in houses of one room, while 37·2 per cent. live in houses consisting of one or two rooms.

"In all other large centres figures may be quoted along the same line, indicating, at least from an accommodation point of view, the manner in which the maximum of our populations are housed.

"Thus in Paisley, 64·9 per cent.; in Greenock, 58 per cent.; and in Dundee, 63 per cent. of their inhabitants reside in houses of one or two rooms.

"But another set of figures may be usefully quoted in order to still further enable us to intelligently grasp the full extent of the housing evil with which under this particular heading we are at present dealing.

"In the city of Edinburgh I find that 32·7 per cent. of the population live under circumstances where more than two persons occupy one room; that 12·8 per cent. of the population live more than three in a room; while 4·1 per cent. actually live more than four in a room. If we turn to the conditions prevalent in Glasgow, I find that there are actually 55·7 per cent. of the population living more than two in a room; while 27·9 per cent. live more than three in a room; 10·7 per cent. more than four in a room; and 3·4 per cent. more than five in a room.

"The housing conditions just described as existing in these two cities, may be taken as a fair example of those prevalent in all other large centres of population."

TABLE SHOWING POPULATION AND RATE PER CENT. TO TOTAL POPULATION LIVING IN HOUSES OF ONE, TWO, THREE, FOUR, AND FIVE ROOMS AND UPWARDS

Towns.	One Room.		Two Rooms.		Three Rooms.		Four Rooms.		Five Rooms and upwards.	
	Population.	Rate Per Cent.	Population.	Rate Per Cent.	Population.	Rate Per Cent.	Population.	Rate Per Cent.	Population.	Rate Per Cent.
Glasgow . .	103,815	13·8	367,341	48·7	160,083	21·2	54,238	7·2	69,057	9·1
Edinburgh .	18,608	6·1	94,909	31·1	69,686	22·8	45,820	15·0	76,266	25·0
Dundee . .	15,854	9·9	85,324	53·1	34,678	21·6	10,295	6·4	14,338	8·9
Aberdeen . .	7,660	4·8	53,516	33·8	50,614	32·0	20,539	13·0	25,918	16·4
Paisley . .	9,810	11·9	43,444	53·0	17,066	20·8	5,165	6·3	6,430	7·8
Leith . . .	4,190	5·3	34,644	44·5	20,294	26·0	8,591	11·0	10,118	12·9
Greenock . .	7,176	9·9	35,154	48·9	16,904	23·5	4,931	6·8	7,693	10·7
Perth . . .	784	2·3	9,455	28·0	9,843	29·2	4,330	12·8	9,294	27·5

In Edinburgh the section of the population living more than Two in a Room amounts to 99,824, or 32·7 per cent.; living more than Three in a Room 38,973, or 12·8 per cent.; living more than Four in a Room 12,609, or 4·1 per cent. of the total population.

In his capacity as an Honorary Superintendent of the Sabbath Free Breakfast Mission, Dr Williamson has directed my attention to a paragraph in the Annual Report for 1917: "Such a home"—(of the "absolute derelicts")—"consists always of one apartment, the contents of which would be valued by a district broker at a few shillings at an extreme limit, and the occupants—father, mother, family, and sometimes lodgers—occupy it together, and carry on in it all the details associated with family life. Babies are born in that room; members of the family are sick in it, die in it, and are buried from it—and amid all these events the ordinary family life must flow uninterruptedly on."

III. HOUSING AND GROWTH OF CHILDREN

(1) *Seventy-three Thousand Glasgow School Children.*—These death-rates are by themselves impressive; but, fortunately, it is possible to supplement them by statistics of heights and weights of living children. The increase in height and weight is a very subtle test of the effects of environment on the growing child. The relation of growth to nurture is too difficult a problem to be discussed here; but certain results contained in a study of Glasgow facts are too important not to be emphasised once more. In 1907, the Scotch Education Department published a Blue Book on a collection of statistics as to "The Physical Condition of Children attending the Public Schools of the School Board for Glasgow."[1] The heights and weights of school children were studied in relation to houses of one room, two rooms, three rooms, four rooms and upwards. Under the direction of Captain Alan Foster, then Inspector of Physical Education for the Education Department, the School Board of Glasgow collected data from 73 Primary and Higher

[1] *The Physical Condition of Children attending the Public Schools of the School Board for Glasgow, with relative Tables and Diagrams.* (Cd. 3637, price 10½d.)

Grade Schools. This was in the year 1905–6. The schools were broadly classified into groups. Group A comprised schools in the poorest district of the city—26 schools, 24,661 children. Group B comprised schools in the poorer districts of the city—27 schools, 25,348 children. Group C comprised schools in a district of a better class—11 schools, 11,453 children. Group D comprised schools in a district of a still higher class. In this class were included four out of five of the Higher Grade Schools in the city—9 schools, 11,395 children. These groupings indicated a real social gradation. In Group A the number of one-room houses was as high as 19 per cent.; the number of three-room houses fell as low as 8·7 per cent. In Group D the percentage of one-room houses was as low as 0·6 per cent.; the percentage of three-room houses was as high as 40. Groups B and C fell between those extremes. The groupings of the schools thus roughly followed the distribution of the one-, two-, and three-room houses. Returns were made for 72,857 children, of whom 36,883 were boys and 35,974 were girls. Mentally defective children were omitted. All through the sixty-two elaborate tables, the heights and weights were compared with the standard averages of the Anthropometric Committee of the British Association. The heights and weights were further classified in correlation with houses of different sizes. The leading conclusions were brought to a focus in a series of six graphic diagrams, showing at a glance the significance of the whole investigation.

This investigation I refer to here because, although it does not include children of the pre-school ages, it affords abundant proof that the conditions affecting children of the school ages affect equally the children of the pre-school ages. On general grounds this may be inferred; but the inference is further confirmed by a subsequent investigation conducted by Dr Alexander S. M. MacGregor, Tuberculosis Officer for the city of Glasgow, who included children of the pre-school ages.

So far as I am aware, the investigation organised by the Glasgow School Board for the Scotch Education Department is the largest investigation of its kind in this country. The results confirm in the most striking way the conclusions already indicated by the general death-rate, the infantile death-rate, the tuberculosis death-rate, and the death-rate of children from one to five. The tables in the Blue Book deserve the most careful, detailed study; they have attracted the attention of statisticians both in this country and in America, and one or two of them have been subjected to some criticism. In particular, criticism has been directed to Tables 61 and 62 (pp. 55 and 56 of the Report). In these tables, the averages of the heights and weights at different ages have themselves been averaged; but the numbers on which the averages of those averages was based were not all on the same plane. Consequently, the final statement of the differences between the one-room child, the two-room child, the three-room child, and the four-room child were slightly exaggerated; because the numbers beyond the Elementary School age were too small to be of any value. But this criticism does not affect the conclusions to be drawn from the heights and weights at each age from five to fourteen, all in correlation with the one-room, two-room, etc., houses.

It is right to take this opportunity of drawing attention to this oversight in the use of an average; but the broad facts remain unaffected.

What are these facts? Substantially, they are these: The children of the one-room houses are, at every age from five to fourteen, lowest in height and weight. The children of the two-room houses come next; the children of the three-room houses next; and the children of houses of four rooms and upwards stand highest. Thus, at the age of five, the one-room boy weighs, on the average, 37·2 lbs.; the two-room boy, 38·6 lbs.; the three-room boy, 39·5 lbs.; the four-room boy, 40·1 lbs. At age nine the corresponding figures are 51·4 lbs.; 53·1 lbs.; 54·8 lbs.; 56·6 lbs. At age eleven the figures are 60·0 lbs.; 62·2 lbs.; 64·5 lbs.; 66·2 lbs. For height, the corresponding figures at age five are 39·0 ins.; 39·9 ins.; 40·7 ins.; 41·4 ins. At age nine the figures are 46·5 ins.; 47·6 ins.; 48·2 ins.; 48·9 ins. At age eleven the figures are 50·1 ins.; 50·9 ins.; 51·7 ins.; 52·4 ins. The heights and weights at the other ages showed a similar relationship. The figures for girls at the corresponding ages showed corresponding averages.

It may, therefore, be said that, as surely as a child comes from a one-room house, he is likely to be found smaller and lighter than a child from a two-room house. Equally, the child from a two-room house is smaller and lighter than the child from a three-room house. These results, whatever be their ultimate meaning, confirm the results obtained from an analysis of the various death-rates. Further, as the conditions that interfere with growth operate constantly from hour to hour and day to day through life, we are entitled to assume that the relationship between the one-room and two-room children of the school ages will also be found among the one-room and two-room children of the pre-school ages. Indeed, we might expect that the growth at the earlier ages would show more serious differences than growth at the school ages. But I have no data to test this conclusion.

(2) *Glasgow Fever Hospital Children.*—To a certain extent, therefore, the analysis made by Dr MacGregor on children of two to ten years of age admitted to the Belvidere Fever Hospital, Glasgow, confirms the general results of the school-age investigation. "Sufficiency or insufficiency of food supply and the varying conditions of housing are probably the most important external causes by which growth is favoured or impeded, and no serious inquiry has yet been made into the relationship between these factors and the physical condition of children under the age of five."[1] Dr MacGregor took the mean heights of children affected by scarlet fever, whooping-cough, and measles. The scarlet fever children, as they came practically from all quarters of the city, represented an average sample of the child population. On the other hand, the children affected by measles and whooping-cough came from the poorest quarter of the city, and represented those where the one-room and two-room houses predominated. The difference is due to the fact that scarlet fever cases of all classes are isolated in Glasgow, but cases of measles and whooping-cough are so numerous that only the worst-housed patients can be isolated. Hence the contrast between the heights of the scarlet-fever children and the heights of the measles and whooping-cough children corresponds roughly to the contrast between the worst houses and the average for the city as a whole.

On these presuppositions, Dr MacGregor's results are found to be quite in line with the results already recorded for the children of the school ages.

[1] *Journal of State Medicine*, vol. xxiv., No. 7, p. 208.

In a chart he shows "that the inferiority of the children from the poorest districts is most marked at the younger ages, a result more valuable because of the exclusion from the inquiry of children suffering from recognisable rickets, a disease which is very prevalent in Glasgow, and which, as I have also shown, is responsible for much of the diminished stature of the poorer children of the city. The phenomenon suggested by the chart, that there is a tendency to recovery of physique as school age is approached, deserves to be tested by larger figures. Does it mean that the children of inferior physique, as reflected by the particular factor of height, are weeded out by death between the ages of two and five?—an implication which has an important bearing on the present-day controversy as to the selective value of high death-rates in young children. This inquiry suggests that children under five are at the age of greatest sensitiveness to adverse conditions of environment." [1] In another chart he shows that, when contrasted with the scarlet-fever standard, the heights of children from one-, two-, and three-apartment houses afford corroborative evidence.

(3) *Children Suffering from Rickets.*—This conclusion is still further confirmed in a chart contrasting the children of the one-, two-, and three-apartment houses with children suffering from rickets. Dr MacGregor states that "many children, again, reach school age in such a condition of physical disablement that special educational provision has to be made for them. For instance, one-half of the children attending the physically-defective schools of Glasgow are incapacitated by a previous attack of rickets from making the journey to an ordinary day school. Many of them require medical care and nursing before they can be fitted even for a Cripple School. The excessive number of deformed children met with in the poorer quarters of the city illustrates the effects of poverty, ignorance, and neglect on a prevalent disease. This subject is so important, and its prevention belongs so particularly to the earlier years of life, that I should like to make some reference to the rachitic children in the hospital study before referred to. The incidence of recognisable rickets among children from two to ten years of age was found to be 31 per cent. for males, and 26·7 per cent. for females. In stature they were smaller than the non-rachitic children at all ages, the males being of less height than, and the females about the same height as, the non-affected children from single-apartment houses. It was further shown that the children of the class inhabiting smaller houses had a much feebler capacity for recovery without serious defect than those of the class inhabiting larger houses. Among other consequences, the prevalence of rickets in a slum population seriously handicaps recovery from acute illnesses, and diminishes the chances of complete convalescence without respiratory sequelæ, particularly in the case of pneumonia, measles, and whooping-cough. These diseases account for a large proportion of physically unfit children and adolescents. When rickets is present in addition, the results are more accentuated. For instance, the case mortality among rachitic children between the ages of six months to two years suffering from the two latter affections was 32·8 per cent., as compared with 21·1 per cent. in the case of non-rachitic children." [2]

It is not contended that the house alone is responsible for the enormous prevalence of rickets in Glasgow and elsewhere; but, so far as Dr MacGregor's

[1] *Journal of State Medicine*, vol. xxiv., No. 7, p. 210. [2] *Ibid.*, p. 216.

small numbers go, the one-room houses suffer from a greater incidence than the two-room houses; the two-room houses from a greater incidence than the three-room houses; and the three-room houses from a greater incidence than the four-room houses. Here I select these figures because of their bearing on the question of housing, not because they are in themselves conclusive as to the nature or causation of rickets. But, apart from any theory of the relation between housing and disease, these figures suggest a need for the continued investigation of this as well as of the other diseases incidental to the poorer classes of the community. The girls deformed by rickets to-day become the deformed mothers of to-morrow, and furnish the maternity hospitals with some of their most tragic cases.

2. *Conclusion.*—In other parts of this Report there are materials that further confirm these conclusions. No doubt the stresses of labour and living in the one-room houses vary enormously with food, income, and locality. But the Glasgow figures are enough to prove that, whatever be the vigour of any population, the physical stresses of family life in one room always constitute a serious handicap for the mothers and young children. From this conclusion there is no escape. Let it be granted that the one-room house of the cities attracts the marginal population of all types—the inefficient, or the drunken, or the diseased, or the degenerate. Let it also be granted that, if restricted to occupancy by single persons or couples, the one-room house may be a sufficient dwelling. Let it finally be granted that, among the one-room population, there are many other evil influences operative besides the physical dangers of overcrowding. These concessions do not touch the substantial truth that the lives of women and children necessarily suffer deterioration from life in one room. If this be accepted, a further conclusion is inevitable: the Scottish nation cannot any longer afford to keep up so many one-room houses; they mean too great a waste of the nation's real wealth—the mothers and their children.

Recent Studies on Housing in Relation to Child Life

1. *Census*, 1911: "Report on Glasgow and its Municipal Wards." By A. K. Chalmers, M.D., etc.

2. *Health and Housing.* By A. K. Chalmers, M.D., etc. London: *The Medical Officer*, 36–39 Whitefriar Street.

3. "The House as a Contributory Factor in the Death-Rate," by A. K. Chalmers, M.D., etc., *Proceedings Royal Society of Medicine*, vol. vi. London: Bale, Sons & Danielsson, Ltd.

4. "The Care of Children under School Age," by Alexander M. S. MacGregor, M.D., *Journal of State Medicine*, vol. xxiv., No. 7.

5. *Report on the Physical Condition of 1400 School Children in the City, together with some Account of their Homes and Surroundings.* City of Edinburgh Charity Organisation Society. London : P. S. King & Son, 1906.

6. *The Influence of Housing on Health.* By A. Maxwell Williamson, M.D., etc., Medical Officer of Health, Edinburgh. 1917.

7. *The Physical Condition of Children attending the Public Schools of the School Board for Glasgow, with relative Tables and Diagrams.* Report by Dr W. Leslie Mackenzie and Captain A. Foster. (His Majesty's Stationery Office. Cd. 3637.)

8. *Reports to the Local Government Board for Scotland upon the Administrative Control of Pulmonary Phthisis in Glasgow.* (His Majesty's Stationery Office, 1911.)

9. *Public Health Administration in Glasgow* : Dr James Burn Russell : Memorial Volume, p. 189—" Life in One Room." (Maclehose, Glasgow.)

Note.—Since this chapter was written, the reports of the Majority and Minority of the Royal Commission on Housing in Scotland have been issued. The small, but cardinal, section dealt with above may now be studied in relation to the many social and economic problems concentrated in the term " housing of the people."

CHAPTER XI

THE PROVISION FOR THE PROTECTION OF INFANT LIFE

1. *The Children Act*, 1908.—The Children Act of 1908 was hailed as the Children's Charter. How far it has really earned that title no one can yet determine. The Act itself, as the third schedule to it shows, amended and consolidated a whole series of Acts dealing with the criminal and quasi-criminal aspects of childhood, parenthood, and child-guardianship. The Children Act involves the repeal or amendment of materials from more than forty Acts of Parliament. Of a certain troublesome fracture, Sir Alexander Ogston, the late Professor of Surgery in Aberdeen University, used to say: "There are seventeen operations for this fracture. That means that none of them is worth much." One cannot say precisely this of the Acts repealed or amended under the Children Act of 1908; but their very number suggests that each generation from 1854 onwards found that the methods for protecting infant life were far from satisfactory.

The Children Act of 1908 achieves a certain consolidation of all the previous measures; but one criticism of it is too obvious to be missed even on a casual reading: there is no single authority responsible for its administration. The Parish Council, the Education Authority, the Public Health Authority, the Local Government Board for Scotland, the Scotch Education Department, the Secretary for Scotland, the Police Authorities, certain philanthropic societies and private persons—all have some function in the administrative machinery of the Act. This mixture of executive authorities corresponds to the mixture of duties required under the Act. Accordingly, an exhaustive account of the bearing of the Act on the lives of Scottish mothers and children would really involve a description of the operations of the Parish Councils under the Act; of the general police and criminal procedure of the Courts; of the provision made for children in the industrial schools, the reformatories, detention homes, and the other institutions provided for in the statute. Such an account is obviously impossible as a mere

section of this inquiry. This is why I offer only a few leading indications of the working of the Children Act.

Let it, however, be pointed out that the standpoint of the Children Act differs fundamentally from the standpoint of the Public Health Acts and the Notification of Births Acts. These are concerned with health, and the general conditions for promoting health. The Children Act is concerned with the protection of children from individual ill-treatment, cruelty, and neglect. Doubtless, at one or two points, all the Acts affecting child life come into contact; but the essential note of the Health Acts is prevention: the essential note of the Children Act is punishment.

2. *The Work of the Scottish National Society for the Prevention of Cruelty to Children.*—This Society plays a large part in the working of the Children Act. It has some twenty-eight district branches. There are approximately forty-seven inspectors. There are five children's shelters and one children's home. Normally, the Society acts on its own initiative; but it also deals with cases put in its charge by the Parish Councils as Local Authority under the first part of the Act. The Society's activities are extensive in range and important in result. The view of the Society taken by the Local Government Board for Scotland is shown in the following excerpt:—

> So far, no official machinery has been devised for carrying out Part II. of the Children Act (*i.e.* the important clauses that deal with offences against children); and, but for the existence of the Scottish National Society for the Prevention of Cruelty to Children, we have some reason to think that, in Scotland at least, these clauses would be practically inoperative. Our experience of the Scottish branch of this Society leads us to form an opinion that it discharges with great efficiency a highly meritorious and useful national service. Its inspectors, who have special skill in this work, are always willing to place their services at the disposal of Parish Councils, and often render great assistance to Inspectors of Poor. We have ourselves found them exceedingly helpful in investigating and dealing with cases reported to us. Parish Councils are authorised by Section 132 (20) of the Children Act to contribute to their funds, and we have invariably advised liberal subscription, as, in our view, the work of this Society undoubtedly makes for the diminution of pauperism. (*Report of Local Government Board for Scotland, 1913.*)

The objects of the Society are:—

> (1) To prevent the public and private wrongs of children, and the corruption of their morals.
> (2) To take action for the enforcement of the laws for their protection.
> (3) To provide and maintain an organisation for the above objects.
> (4) To do all such lawful things as are incidental or conducive to the attainment of the above objects.

These objects are specified somewhat more definitely in a notice prefixed to the annual reports:—

PROVISION FOR THE PROTECTION OF INFANT LIFE

(1) Through this Society thousands of suffering children appeal to you.

(2) The sole object of the Society is to secure to every little child in the land that its life shall be at least endurable.

(3) It seeks to protect children against inhumanity, injustice, and wrong; to rescue them from degrading surroundings; and to give them a chance of becoming useful citizens.

(4) By advice, warning, and if necessary as a last resource by prosecution, the Society causes lazy, drunken, and neglectful parents to feed, clothe, and treat their children in a proper manner.

(5) Its work is awaking long-neglected natural instincts in careless and savage parents, and teaching them to treat their children properly.

(6) Having a due regard for the sanctity of family life, the Society endeavours to reform the home, and only removes children to institutions when necessary in order to rescue them from criminal and vicious parents.

(7) The Society is supported entirely by voluntary contributions, and funds are earnestly solicited for the maintenance and extension of the work throughout Scotland.

These propositions constitute in themselves a serious "criticism of life." They point to a multitude of imperfections in the changing and growing social mechanism of our time. But they are not mere abstract propositions. They are rather the summary of a prolonged experience. They take some justification from the classified facts shown in the reprinted table (pp. 188, 189). From personal experience as a Medical Officer of Health, and as a member of the Local Government Board, I know that the Society exercises a very powerful influence in the localities. The "cruelty people," or, more shortly, the "cruelty," are as well known as the police. It is reasonable to suppose that they have a restraining influence on some parents; but, from the nature of the case, they must deal mainly with social by-products and end-products. Long before the Society can intervene even with advice or warning, the neglectful parent has been guilty and the child has suffered. Perhaps the Society may have some effect in "awaking long-neglected instincts in careless and savage parents"; but they cannot well deal with the conditions that produce the carelessness and the savagery. The Society also, in its endeavours to preserve "the sanctity of family life," often finds that, in a multitude of cases, the family has failed in its primary object and is fit only to be scrapped. But here too the Society must always come as a visitor after the fact. It can do little either to produce or to preserve the social conditions that alone make a wholesome family life possible. The Society removes children to institutions only "when necessary in order to rescue them" from criminal and vicious parents. In this matter the Children Act places very drastic power in the hands of the Court. The severity of those powers is qualified by many mechanisms, such as probation officers, detention homes, and the like. But this

RETURN OF CASES, SINCE THE FORMATION

Year of Formation of Branch.	Branch.	Total Number of Complaints Completed.	Number of Offenders Involved.	Total Number of Children affected.	Number of Supervision Visits.	Classification of Cases.							
						Neglect and Starvation.	Ill-treatment and Assault.	Abandonment.	Exposure.	Begging, Singing, and Selling.	Indecent and Criminal Assault.	Immoral Surroundings.	Other Wrongs.
	Aberdeenshire—												
1900	Aberdeen	5,220	6,879	17,072	25,210	4,980	84	6	21	50	..	20	59
1903	Peterhead	1,175	1,617	3,966	7,569	1,086	40	9	19	10	1	2	8
1913	Argyll and the Isles	278	374	842	4,821	238	1	..	15	1	..	..	23
	Ayrshire—												
1894	Ayr	3,607	4,405	10,015	5,735	2,826	79	18	263	248	1	19	153
1894	Kilmarnock	4,196	6,064	11,733	13,873	2,638	94	20	851	519	..	7	67
1904	North—Saltcoats	2,239	3,619	7,338	10,310	1,865	62	6	94	132	..	..	80
1909	Border Counties—Galashiels	1,054	1,723	3,004	9,169	796	25	2	91	65	1	12	62
1902	Caithness—Wick	786	1,211	2,497	7,013	744	5	1	9	21	..	..	6
1902	Dumbartonshire	1,893	2,432	6,303	14,924	1,853	26	..	6	8	..	..	..
1900	Dumfries and Galloway	1,364	1,914	4,468	10,183	1,254	72	5	14	18	..	..	1
1888	Edinburgh District	29,273	35,698	80,130	124,595	23,428	844	91	912	1,292	15	223	2468
1907	Leith	2,940	3,596	8,403	19,441	2,471	113	6	13	91	..	5	195
1897	Moray, Nairn, and Banff	1,399	1,909	4,497	11,088	1,224	27	2	19	13	..	2	112
	Fife—												
1898	East—Kirkcaldy	3,837	5,442	12,993	17,892	3,580	124	27	34	17	2	12	41
1902	West—Dunfermline	2,962	4,017	8,839	15,801	2,399	142	114	64	131	3	6	103
1893	Forfarshire—Arbroath	1,941	2,617	5,684	16,199	1,513	72	14	41	110	..	18	173
1899	Inverness-shire — Inverness	1,302	1,711	3,877	6,589	1,108	24	10	23	64	..	14	59
	Lanark—												
1884	Glasgow	44,077	50,712	110,047	113,825	30,160	892	6	991	10,632	13	1052	831
1901	Hamilton	3,438	4,517	11,849	16,530	2,976	132	10	57	162	..	4	97
1908	Wishaw	1,469	2,109	4,862	9,363	1,365	32	10	12	23	..	1	26
1890	Old Monkland	3,734	4,991	11,583	17,173	2,538	182	179	398	378	..	15	44
1908	Airdrie and District	436	581	1,299	3,091	284	12	28	60	46	..	..	6
1894	Perthshire—Perth	2,192	3,067	6,151	20,801	1,898	76	16	21	139	6	23	13
	Renfrew—												
1900	Greenock	4,567	6,545	13,870	18,304	4,151	89	21	136	55	..	31	84
1902	Paisley	3,660	4,719	11,110	23,254	3,283	55	10	47	173	1	18	73
	Ross-shire—												
1904	Dingwall	834	1,354	2,901	7,539	740	17	5	49	11	..	2	10
1909	Hebrides	72	129	275	138	70	..	..	..	..	..	2	..
1904	Stirlingshire — Stirling and Falkirk	3,119	4,351	9,917	16,692	2,862	76	6	29	88	4	40	14
1904	Wigtownshire — Stranraer	1,163	1,626	3,971	9,158	960	52	4	65	65	..	3	14
	Totals	134,227	169,929	379,496	576,280	105,290	2949	626	4354	14,562	47	1577	4822

PROVISION FOR THE PROTECTION OF INFANT LIFE

OF THE SOCIETY TO 31ST DECEMBER 1915

Action taken.				Result of Cases Prosecuted.					Convicted.		Children admitted to Shelters and other Places of Safety.	Children removed from Parents or Guardians, and how disposed of.				
Warned.	Sent for Trial.	Otherwise dealt with.	Dropped after Investigation.	Sent to Prison.	Fined.	Inebriates' Reformatory.	Reprimanded.	Discharged.	Number of Persons.	Children concerned.		Returned to Guardians.	To Industrial Schools.	To Poorhouse.	To Homes.	Otherwise disposed of.
4,838	259	91	32	230	12	5	12	..	315	863	6	6	42	551	100	99
1,105	54	15	1	43	1	..	9	1	71	163	35	11	7	102	22	23
244	8	23	3	4	..	..	4	..	9	22	2	7	..	11	14	5
3,086	390	127	4	325	20	..	43	2	425	912	854	331	135	232	133	234
3,612	524	55	5	285	108	..	124	7	563	1,423	1,528	1,191	60	235	72	56
1,832	243	164	..	192	28	2	19	2	307	791	22	5	55	182	25	65
948	80	25	1	52	17	1	8	2	103	187	30	24	13	58	38	6
731	46	7	2	24	9	..	7	6	47	127	3	..	13	7	10	..
1,589	292	12	..	229	1	1	60	1	330	887	474	409	16	37	42	1
1,205	113	22	24	83	11	..	17	2	138	368	4	4	105	114	57	44
23,675	1,375	3,945	278	919	95	8	311	42	1,452	3,608	14,164	7,768	1,467	1,482	1,984	1,348
2,411	104	339	86	87	3	2	11	1	112	331	141	32	36	143	48	31
1,119	152	126	2	79	17	..	51	5	182	516	..	..	20	140	49	16
3,327	425	85	..	272	16	12	122	3	509	1,385	..	2	68	215	66	57
2,218	401	343	..	275	12	..	108	6	463	1,068	37	16	97	394	118	96
1,445	292	187	17	158	10	8	118	3	357	878	..	..	84	183	54	35
1,102	89	75	36	37	10	..	32	10	90	249	4	23	15	138	60	2
37,466	3,463	3,139	9	2225	291	35	863	49	3,682	9,340	19,799	12,178	3,440	2,774	1,564	583
2,962	287	187	2	195	20	..	69	3	325	834	350	236	37	142	83	34
1,272	160	32	5	117	8	..	29	6	180	483	18	4	8	87	16	22
3,148	413	146	27	333	16	..	61	3	489	1,161	379	164	89	627	86	126
398	15	23	..	12	1	..	2	..	19	42	..	..	1	52	..	2
1,788	223	167	14	162	13	2	41	5	250	594	81	27	313	119	101	71
3,742	495	305	25	326	29	22	97	21	533	1,324	207	53	139	363	174	68
3,188	166	253	53	142	4	1	15	4	181	552	..	3	117	113	83	3
735	76	18	5	32	10	..	32	2	103	285	..	3	10	126	46	12
71	1	..	..	1	..	..	..	..	1	3	..	..	..	3	..	..
2,712	176	147	84	115	7	..	47	7	191	536	263	91	177	320	220	97
1,032	100	29	2	66	20	..	12	2	113	248	..	1	16	39	43	17
113,001	10,422	10,087	717	7020	780	94	2324	195	11,540	29,180	38,401	22,589	6,580	8,989	5,308	3,153

necessity for the removal of the children has to be justified by overwhelming reasons. Even if we assume that the reasons for removal are overwhelming, the numbers removed are appallingly large. Thus, in the year 1914, some 27,366 children were affected by the action of the Society. Of these, 1728 were removed from their parents or guardians. It is true that, of those removed, 546 were returned to their guardians; but the rest were sent to industrial schools, or to poorhouses, or to homes, or were otherwise disposed of. Here, as the result of the action of this great Society, the beneficence of whose objects is unmistakable, we have a steady stream of children of all ages flowing into public institutions. However excellent those institutions may be in their management—and some are good, some indifferent,—they can never be an adequate substitute for a family home. They are at the best a necessary evil. They cure nothing. They are dealing with accomplished facts. They make a certain relatively good life possible; they keep the children for the time in safety; but equally they take the children out of their place in normal society, and, by that fact, tend to unfit them for a return to it. This is true of all institutions, however good. It is incidental to their nature. In saying so, I am thinking only of the institution that becomes a complete substitute for the home, not of an institution temporarily used to make a restoration to the home possible at a later stage. The two types differ materially.

Undoubtedly, in recent years, there has been a steady tendency to the institutionalising of children. It is a short and easy cut to an immediate success. On the face of it, it often looks the only reasonable course. When a father, or a mother, or both, have proved themselves so unfit for the protective duties of parents that they make themselves liable to punishment by imprisonment, the children have to be provided for in some way, whether the provision take the form of a poorhouse as a temporary residence or a "home" as relatively permanent. But the masses of such cases accumulated by a large Parish Council like Glasgow or by the activities of the National Society compel one to ask whether the time has not come for seeking some other method of preserving a mother and a father to the child and of preserving the child to its parents. My mind is open to persuasion; my personal experience makes me sympathise with the terrible duties placed upon the officers of the

Parish Councils and the inspectors and the other officers of the National Society ; but I cannot help feeling that methods involving such disintegration of the family have in them elements of social danger. I cannot help contrasting the actual results of this table with the results, small but equally actual, sketched in the short statement made by the Rev. Dr Watson as to the working of the small home for unmarried mothers. Here, it is true, we are dealing with persons different in history and character from those habitually dealt with by the "cruelty people." But many of those that ultimately fall under the ministrations of the Parish Council and the Society must have been recruited from the same source as those dealt with at the unmarried mothers' home. But married and unmarried alike come within the scope of the Children Act, and the table of returns probably includes mainly the children of the married. With every wish and endeavour to get at the generative causes of the cases dealt with, the Society must frequently find itself overborne by the enormity of the actual facts. Case after case seems to allow of no alternative but temporary disintegration of the family unit. This can be seen from the various cases recorded below. But as the enormous growth of Poor Law machinery, carrying a historical experience of seventy years, led to the extended inquiry made by the recent Commission on the Poor Laws, so this particular section of administration seems to call for some still closer inquiry. This suggestion comes to me not so much from a study of the work done under the Children Act—although, from official sources, my knowledge of its working is fairly intimate—as from the pointed contrast between the spirit of the Children Act itself and the recent powers conferred on the health authorities for "attending to the health of expectant mothers and nursing mothers, and of children under five years of age within the meaning of section 7 of the Education (Scotland) Act, 1908." Between the motive of the one set of statutes and the motive of the other there seems to be an immense difference. Probably, as time goes on, the development of the social machinery for the care of the health of expectant mothers, nursing mothers, and children will to some extent supersede the necessity for the action of the criminal and quasi-criminal organisations. This will take time. Meanwhile, the children shall not be ill-treated or neglected. To this the Society and the Parish Councils can always fairly point as the reason for their activities.

None the less, I should like to see some careful and prolonged inquiry into the whole question of the provisionally accepted methods for the temporary or permanent disintegration of unfitted families. Above all, I should like to have a closer knowledge of the extent to which the unfitness of the families or the individuals composing them is manufactured out of preventable conditions. "Nothing," as someone remarks, "is so expensive as our manufactured unfit."

Scottish National Society for the Prevention of Cruelty to Children

(1) Notes by Miss Bertram Ireland of Interview with R. T. Paterson, Esq., Interim General Secretary

This Society was started in 1884 by a private individual in Glasgow. The Edinburgh branch was formed in 1888.

The funds of the Edinburgh branch of the Society are supported by means of voluntary subscriptions and donations; grants from the Parish and Town Councils, and one or two legacies and endowments. The Glasgow branch received a grant from the Common Good; and parishes throughout the country contribute to the general funds.

Mr Paterson stated that about 75 per cent. of the cases he deals with are the direct result of "drink," and that 20 per cent. are the indirect result of drink. As a rule the fathers are the chief offenders; at present mothers form the greater proportion.

Complaints of cruelty, neglect, etc., are largely received by means of anonymous letters from neighbours. In some cases the neglect takes the form of undernourishing or underclothing the children, and sometimes of leaving infants alone in the house for consecutive hours, etc. Cases of actual cruelty are infrequent. All complaints are investigated by an inspector, and few are found to be groundless. In the majority of cases advice and intimation of further visits are sufficient to effect an improvement in the treatment of the children. If this is not the case, the inspector may ask the Procurator Fiscal to prosecute. Mr Paterson mentioned an incident where eight families living in one street in Glasgow were reported to the Society. An inspector frequently visited and warned them, but no improvement was effected until one of the families was prosecuted. Immediately the other seven mended their ways.

Punishment after prosecution may take the form of the imposition of a fine, a period of detention in an inebriates' reformatory, a period of imprisonment, etc. In Edinburgh, Glasgow, Leith, Dumbarton, and Hamilton, when both parents have to be temporarily separated from their family, the children are kept for the requisite period in the Society's Shelter. In other places the children have to be sent to a poorhouse. If the father only is detained, the children are left with the mother; if the mother only is detained, the children are left with the father, who may get some female relative to assist him for the time being.

In the cases where both parents have been imprisoned for neglect or cruelty, the homes are visited from time to time by the Society's local inspector.

Mr Paterson made it clear that he had to deal only with the worst lot of the population. He stated that in the cases with which his Society deals, poverty is a very minor inducing cause. "But we have cases of destitution and children suffering through that." In almost every instance of a child begging in the streets it has been found that it was done under no necessity.

The causes of several complaints are the quarrels between husband and wife, who report upon each other.

The Society is most particular about putting into force section 12 (1) of the Children Act (as regards medical relief), Part II.

During the year 1915, 7200 complaints were lodged, involving 22,263 children; 48,730 supervision visits were paid. 407 parents were sent for trial; and 1328 children were removed from their parents' charge.

At present the Inspectors of Poor at Inverness and Keith are acting as temporary inspectors of the Society.

The following were given as types of cases dealt with by the Society:—

(1) Mr and Mrs A.; first living at —— Street, with four children. Mrs A. aged 29. Mr A. earning 21s. per week, of which he gave his wife 20s. In 1910 he com-

plained to the Society of wife drinking. She was then warned by an inspector, and revisited from time to time. Children suffering from neglect. In 1911 the youngest child (3 years) died. In 1912 Mrs A. was brought before the Sheriff, and put on probation for twelve months. During that time she kept pretty straight, but her husband complained twice later. It was found that both husband and wife were drinking. Both improved, but sank back again. June 1913, anonymous complaint. Sept. 1914, another complaint. Eldest child, 10 years, wandered to grandparents. Inspector found her and brought her back to Glasgow. Husband joined Army. 28th May 1915.—Children poorly clothed and fed; mother prosecuted, sixty days' imprisonment; children in Shelter. (Before this, —— Street School complained as to children's condition.) Separation allowance withdrawn; Government paid the Society 5s. per week for each child.

Mrs A. out of prison; took house in —— Street; got children back. Since then there has been no fault to find with her. Report, Nov. 1915: "Mother sober, goods sent, and a little money given her personally. Youngest child fairly clean." March 1916.—Youngest child clean; mother working out. May 11.—Baby clean; house clean. June.—Baby clean; house clean. July.—Baby clean; house clean. Woman now getting allowance direct, and in full, as it is thought that she will keep straight. The three children attend school.

(2) Father (41) in hospital; mother (30) careless; five children, 9, 8, 6, 4, and 1 year 4 months; healthy, poorly clad, underfed, in verminous condition. Case under supervision.

(3) Mother was in sanatorium; now home; not strong. Father bronchitic; joined Army; discharged as medically unfit; pension of 5s. per week. Seven children; two daughters of nineteen and seventeen earn 14s. and 12s. per week; boy of fifteen "idle." Two-apartment house. Younger children insufficiently cared for. Case under supervision.

(4) Mother (28) careless. Father (28) previously a soldier; deserted; was a miner earning £3 per week; idle for five weeks; gave himself up; imprisoned for twelve months. Mother had to pawn clothes to get food. Now in receipt of 10s. per week from S.S.F.A. Five children, dirty but healthy; four aged 9, 8, 6, 4 years; one 4 weeks. The child of eight unable to attend school for want of clothes. House well furnished, single apartment, two beds; very poor. Mother "warned"; to make application to Parish for clothing.

(5) Father (47) works in Clydebank. Mother (39) now in Poor Law Hospital. Seven children. Income 30s. per week. Two-apartment house. Eldest boy kept at home while mother away. School Board complained. Three children under school age; no one to look after them. Father asked to keep girl of ten at home. Children healthy, but two girls have broken-out spots on feet. Ample food and fuel.

(6) Father storekeeper, earning £3, 15s. per week. Mother lazy; working out. Four children; living in one sub-let apartment; children healthy, but filthy; beds in unsuitable condition.

Police complained to Society, and mother was told to stay at home. She did so; new bed was provided, but laid on top of old straw. Woman talked of removing. Dec. 1916.—Infant's bottle in a filthy condition; children clean. Feb. 1917.—Mother sober; children clean; removed to house of two apartments. No furniture in room.

(7) Father (31), labourer, earning 36s. per week; drinks. Mother, one child; in single-apartment house; grandmother looking after child, while mother working. Child healthy, well nourished. March 1915.—Husband's money insufficient; husband suffering from liquor injuries; promised to stop drinking. April 1915.—Husband doing well; will give all his wages to wife, and preparing to have their own house. June 4.—Satisfactorily removed. June 26.—Satisfactory. July 20.—This case has turned out successfully, and is now very satisfactory.

(8) Mrs X. (44). Husband reported her drinking and neglecting three children, 14, 6, and 3 years. Two rooms. Father earning 30s. per week. April 27, 1915.—Children underclothed and dirty; bed covered with old coats. Child suffering from scabies. Father appeared to be respectable. Mother pawns everything; has been drinking for years. April 30—Doing well. May 5.—Great improvement. Child's head better. Father thankful for our assistance. May 7.—Improvement continues. May 24.—Improvement continues. June 24.—Woman again broken abstinence, and drunk in her own house. Grown-up daughter informed me mother drinking. July 7.—Found mother sober; warned last chance. July 29.—Mother sober; husband wants visits continued. Sept.—Mother sober; doing well. Sept. 17.—Revisited; improvement still maintained. Oct.—Doing well. Nov.—Going on all right. Nov. 12.—Case satisfactory. Nov. 30.—This case has been a success.

(9) Woman (23); two illegitimate children, 4 years and 17 months; living with her father and mother (who reported to Society). Earns 14s. per week. Father said to be a soldier; gives no support. Sept. 7, 1916.—Children dirty; boy suffering from cataract; upper eyelid very sore; advised to be sent to doctor. Sept. 8.—Saw mother; severely

warned. Sept. 14.—Much improved. Sept. 19.—Boy William getting on well. Sept. 26.—Infant, while still delicate, is clean. Nov.—Boy died; other child improved. Jan. 1917.—Case very satisfactory. Feb.—Improved very much.

(10) Both parents prosecuted. All children kept in Shelter, clothed, etc. Wild relapse, but threat of fresh prosecution improved parents.

(2) Edinburgh Shelter

Notes by Dr Mary Menzies and Miss Bertram Ireland

At the premises of the Edinburgh Branch of the Scottish National Society for the Prevention of Cruelty to Children, 142 High Street, the object of the Society is to provide a Shelter for children, ill-treated or neglected in Edinburgh and the Lothians. Since war was declared work has been chiefly confined to Edinburgh. There were admitted to the Shelter 675 children during the year 1914, and 806 during the year 1915. Children are admitted at any age, and ten-day old babies have been brought in.

There is accommodation for 50 children—the average daily number is 35. No child is ever refused a temporary home. Sometimes children sit on the door-step, or even come up to the door and ask to be taken in. The children admitted are, for the most part, those removed from the care of the parents on account of gross neglect or ill-treatment. Since the war a number of children have been handed over to the care of the Society by soldiers, home on short leave, whose wives were drinking, had deserted, or had died.

Miss Hepburn is of opinion that, in addition to the Admiral Terrace Home, another home for illegitimate children is much required, and would lead to a decrease in the illegitimate death-rate. She states that applications are frequently made by mothers for care of their infants, until they themselves are able to obtain a situation and arrange for boarding-out. Sometimes parents pay a small sum towards the board of the children. If a child has no parents it is transferred to an orphanage.

A medical man attended the Shelter regularly before the war. If any infectious disease is suspected the child is removed to hospital.

The Edinburgh branch of the Scottish National Society for the Prevention of Cruelty to Children has at present five male and four female inspectors.

A three years' hospital training and a training in midwifery are demanded as the necessary qualifications for female inspectors. Since war was declared, women without a midwifery training have had to be accepted. Importance is attached to their capacity for meeting emergencies.

The men inspectors must be married men, and they are usually discharged police or army men of good character. All inspectors serve for a period on probation.

There is a total administrative and executive staff of about twenty-two. A very careful record of cases is kept on an excellent card system, and information concerning cases previously or presently under supervision can at once be obtained.

Complaints are received from neighbours, relations, Soldiers' and Sailors' Families Association Visitors, the Voluntary Health Visitors, and anonymously. The first attention of the officer is devoted to trying to obtain improvement in the home. If the parents do not improve, then the children may be taken to the Shelter temporarily. If no desire is shown to work or keep the home decently together, the children are separated from the parents and boarded-out. A Justice of the Peace or Sheriff Court Order is, we understand, obtained in these cases.

Imprisonment of parents is resorted to only when every other attempt to help has failed. On release from prison, aid is given.

On admission, the children are bathed, weighed, and reclothed in Shelter clothes; their own garments are generally destroyed.

The secretary has a large number of photographs showing the condition of the children on admission and during their stay.

It is found very difficult sometimes to train the children in good habits.

The staff consists of the matron, four nurses, a cook, tablemaid, and scullerymaid.

The premises consist of a large house in a square court, off the High Street. The children have meals in this court in summer time. In the basement are offices and a receiving department, provided with bathroom, weighing-machine, clothes destroyer, dressing-gowns and slippers for the children. On the ground floor are the secretary's offices, the nurseries, boys' and girls' dormitories, staff rooms, and the children's bathroom. The nurseries and dormitories are lighted and ventilated satisfactorily.

Other Activities of the National Society in regard to Mothers and Children

Mothers under supervision are advised and help is given with regard to their confinements. When they are unable to provide for themselves, maternity bags are lent. The

visitor helps the mother to make arrangements in regard to attendance at the confinement, sees the husband, and urges him to treat his wife carefully. It is found difficult to persuade the women to go into the Maternity Hospital. A maternity nurse is usually engaged, rather than a doctor, and fees are paid from the maternity benefit. Women have been known to pawn the maternity bag. Frequently the bag is not lent, but old clothes are given. After the birth of the child, milk to the value of 2d. or 3d. per day is supplied where necessary.

The inspectors work in co-operation with the Voluntary Health Visitors, who send in addresses of homes requiring supervision, and later receive fortnightly reports from the inspectors. When possible, mothers and babies are sent to country homes for a fortnight.

Mother's Club and Baby-Weighing at 6 High Street

A flat of two rooms, kitchen, and water-closet is used as a centre. The larger room is used as waiting- and tea-room, whilst the smaller room is used as weighing-room. A social weekly mothers' meeting is held on Monday afternoon from 2.30 to 4 p.m. Two inspectors and two voluntary workers attend. They help the women to cut out garments. When the garment is paid for it is taken away. Mothers pay weekly into the Mothers' Savings Bank. Tea is given at ½d. per head. Some very poor and some inebriate women attend. Recitations are sometimes given, and sometimes the doctor from the Shelter attends and gives an address. The mothers say "it is very nice and homely, and no prayers."

Baby-Weighing

On Wednesday afternoon two nurses (with maternity training) attend to weigh babies and give advice as to feeding and clothing. Since this Centre was opened in December 1915, thirty-four different babies have attended. The weekly average attendance is nine to eleven. The babies are undressed and weighed once a month; if delicate, once a week. They attend every week. A record is kept of attendance, weight, feeding, clothing, condition, vaccination, teeth, and home conditions, with special remarks. Each record is a human document. If a baby fails in attendance the inspector visits the home at once. The mother is given a numbered card, on which the weights are recorded. Children that are not making progress are referred to the Sick Children's Hospital or an infant health centre. Many of the babies are artificially fed. Any mother with a child may attend this Centre. Tinned milk is sold here. One mother had come from Musselburgh on the day on which we visited.

Tea is given to the mothers, who are drawn from the very poorest class, and special attention is paid to the slum mother. They come up fairly clean, and an improvement in the babies' and mothers' clothing has been observed recently. A Baby Competition is held periodically, certificates and prizes being issued for well-kept babies.

The people prefer to attend here rather than at the Shelter, lest, if attending the latter place, neighbours should think that they were under supervision for neglecting their children.

The rooms seemed suitable for their purpose. The walls are painted, floors covered with linoleum, coal fires are protected by a guard. The accommodation is clean, orderly, and business like, and the baby-weighing was well conducted.

Maternity bags contain 2 night-dresses; 1 bed-jacket; 1 chemise; 2 pillow-slips —for some cases old sheets are added; 6 napkins; 2 barricoats; 2 flannel and 1 cotton baby's gowns; 2 baby's vests; and 2 binders. The bags are stamped with the name of the Society, the garments are not.

(3) Leith Shelter

On Thursday, 18th May 1916, Mrs Leslie Mackenzie, Dr Menzies, and Miss Ireland visited the premises of the Leith branch of the Scottish National Society for the Prevention of Cruelty to Children. The head office of the Society is in Princes Street, Edinburgh, and all accounts, etc., in connection with the Leith Shelter are passed through the head office.

The Edinburgh branch of the Society formerly had an inspector working in Leith. As he found that the Edinburgh Shelter was not very convenient for him to reach at any hour, a Shelter in South Fort Street, Leith, was opened in October 1915. There is a District Council of sixty members, and a District Committee of twelve members, with a chairman, a vice-chairman, two representatives to the Council, hon. treasurer, hon. secretary, hon. physician, and an inspector. Five members of the District Committee and two of the District Council form the Shelter Committee.

The total income for the year ending 31st Dec. 1915 was £323, 6s. 9d., and the

expenditure amounted to £268, 11s. In the expenditure is included £125, 16s. 2d. spent in connection with the equipment of the Shelter.

There is accommodation for fourteen children. Originally these were to be drawn from homes where parents had been accused of cruelty, desertion, or neglect. The children residing in the Home when visited were soldiers' children whose mothers were ill or dead. They had been sent by the Society's inspector, or recommended by a Health Visitor. There were two groups of five children from two families. For soldiers' motherless children the Shelter receives 5s. each, and for children whose mothers are in hospital, 2s. 6d per week is received. While the mothers are in hospital the officials hold the "ring paper" and draw the allowance. An attempt is made to find a permanent home for widowers' children. Few of the children have spent more than one month in the Shelter, though one or two have spent three months. The older children attend school. At the time of visit there were four children under five years of age.

On admission the children are bathed, their hair is cut, and they are dressed in Shelter clothes. They arrive in fairly good condition, but show signs of neglect if the mothers have been ill at home. Their own clothes are disinfected at Pilton Hospital, and returned when the children leave the Shelter. Many presents of clothing are received.

A medical man calls once or twice a week and when sent for. No skin disease has been seen, and cases of running noses, etc., have much improved.

On going on duty, the night nurse lifts the children, and wet beds are seldom found. It has not been found difficult to train children to good habits.

Breakfast consists of porridge and half-pint of milk. The dinner is of two courses, with a milk pudding as one. For tea the children are given bread and butter, syrup or jam, and cocoa. Once a week they are given tea. For supper they are given a slice of bread with jam or syrup.

The staff consists of the (resident) matron, who has had institution experience; a voluntary assistant matron, who attends every day from 10 a.m. until 7 p.m.; an untrained night nurse; one maid, and an occasional washerwoman. The matron does all cooking. The washing of the household and personal linen, except aprons, is done on the premises. Beds are changed fortnightly.

The premises consist of a two-flatted house with basement, and garden behind. The house has an electric light installation. All the furniture was presented. On the top flat are boxroom; lavatory, with washhand basin and water-closet; boys' dormitory, with two cribs and three beds; and maids' bedroom adjoining. On the second floor are the matron's bedroom; the staff sitting-room; a deep cupboard; and two dormitories with six and four beds, or cribs, respectively. The dormitories have linoleum on the floor, and each bed has a mackintosh sheet. On the ground floor are a bathroom, with large and small baths, and usual sanitary arrangements; the day nursery, or dining-room, which has a coal fireplace, linoleum on the floor, papered walls, and low tables and benches, toys, etc.; and the kitchen, from which a wooden balcony leads to the garden.

In the basement are the washhouse, with tubs and boiler; a bathroom, with geyser; an ironing room; a toy room, and store rooms for shoes, perambulators, etc.

There is a garden behind the house. This faces south, and the children play here the greater part of each suitable day.

The house, which has been lately decorated, is fresh and clean, and suitable for the purpose for which it is intended.

3. *The Protection of Child Life in Dundee.*—Dundee has a society of its own for the prevention of cruelty to children. It was established in 1890. It is not a branch of the National Society. The society works on much the same lines as the National Society. The following are some of the results of its activities as shown in the twenty-fifth annual report for 1915:—

(1) Dundee Society for the Prevention of Cruelty to Children

During the past year the Society has dealt with 552 cases, involving the welfare of 1596 children. The number of children who passed through the Shelter was 121. The meals given in the Shelter numbered 3561. The number of articles distributed among poor children was 135. The children committed to industrial schools and other institutions, homes, etc., numbered 30. The corresponding figures for the previous year were:—Cases, 613;

children involved, 1717; children sheltered, 132; meals, 4346; articles of clothing given, 233; children sent to institutions, 36.

The Society is again brought face to face with the fact that cruelty and neglect are, to an alarming extent, to be attributed to excessive and increasing indulgence in strong drink among the mothers. During the past year out of 552 cases reported by the officers of our Society, 276 have been due to this cause.

Summary of Results, 1915

Number of cases	552
Children involved	1596
Children sheltered	121
Children remaining in Shelter at end of month	..
Number of articles of clothing given to children	135
Number of meals given	3561
Number of children sent to Industrial Schools, Training Ship, Orphan Homes, etc.	30
Placed under care of Parochial Authorities	18
Returned to parents or friends	70

Sources of Information as to Cases

General public	183
Officers	71
Anonymous	39
Parents	162
Children	24
Police	73
Total	552

(2) Dundee Shelter

On 30th May 1916, Dr Menzies and Miss Ireland visited the Children's Shelter, which is managed by the Dundee Society for the Prevention of Cruelty to Children.

It was established twenty-five years ago. There are president and vice-president, and a committee of nineteen men (no women), an honorary medical officer, a secretary and treasurer. The question of "appointing a ladies' committee" has been under consideration.

For the year ending 31st December 1915 the ordinary income was £328, 12s. 6d., and the expenditure was £350, 14s. 10d. The capital fund was £3088, 10s. 3d.

Children whose parents are guilty of deserting, neglecting, or cruelly abusing them are kept in this Shelter until some other arrangement is made for them. Clothes are sent as gifts to these children.

The Shelter is also used as a detention house for children. One week there were in the Shelter 16 boys accused of house-breaking. These children are generally sent to an industrial school or to a Parish Council home. At Quarrier's Homes an arrangement is often made that the children be sent to Canada.

The Shelter is used both as a Shelter for neglected children of all ages and as a detention house for children who have been guilty of a punishable offence.

There is a cement playground with high walls and a seat. The staff consists of the matron and one maid. The institution is of the nature of a prison or disciplinary institution rather than a shelter and a home.

While we were at the Children's Shelter, Mr Williamson, Probation Officer, made some remarks about his work. He investigates homes about which he has received complaints by means of anonymous letters, reports from Health Visitors, nurses, and others. If any children are in such a state that he considers they should be taken from the parents, he lodges a petition to the Sheriff Court, and there makes a statement as to what he has seen. The parents are occasionally prosecuted, or put on probation, and the children are either left at home or taken to the Children's Shelter.

4. *Glasgow District.*—The following facts from the report of 1914 are enough to indicate the work of the National Society in the Glasgow district.

SCOTTISH MOTHERS AND CHILDREN

1. *Cases dealt with.*—The number of new cases dealt with in 1914 in the Glasgow district was 2346, an increase on the previous year of 65. In the early part of the year, largely as a result of advertising the work of the Society, there was a considerable increase in the number of cases reported; but after the outbreak of the war the number declined, and in the closing months of the year the number of cases reported fell below the average. The number of children involved in these complaints was 6833, as compared with 6870 in 1913. Every case reported was at once investigated, and thereafter carefully supervised. No fewer than 12,121 visits of supervision have been made by the inspectors in the course of the year. The committee feel that the beneficial part of the Society's work is for the most part done by these visits of supervision. Parents who show a desire to do what is right are encouraged to persevere, and those who are lax and not making proper supervision are warned and made to feel that matters cannot continue without some improvement being shown. With the great number of cases constantly coming under the notice of the Society in Glasgow, it is impossible to do all that the committee would like to do in the way of supervising, but the inspectors willingly give all their time and energy in carrying out this most important part of their duty.

2. *Classification of Cases.*—The offences committed against children during 1914 are given in the following list:—

Neglect and starvation	2267
Ill-treatment and assault	12
Exposure	8
Immoral surroundings	9
Other wrongs	50

3. *Disposal of children.*—The children passing under the care of the Society were dealt with thus:—

Sent to Industrial Schools	86
,, Training Ships	16
,, Poorhouse	45
,, Training Home	1
,, Crookston Home	50
,, Quarrier's Homes	2
,, Other Home	1
Children left in charge of their parents and supervised in their own homes	6632

As already indicated, the committee in the early part of the year took steps to bring the work of the Society more prominently before the community, and, as a result, there was a considerable increase in the number of cases reported to the Society. This was very gratifying, as it showed that cases which otherwise would have gone unchecked were brought under the Society's care. The committee again repeat their invitation to all who may know of cases of neglect in any form to report these to the Society, or to any of the inspectors. A letter or message by telephone to the Society's Office, No. 98 West George Street (Tel. No. Douglas 2347), will receive immediate attention.

4. *Crookston Home.*—The number of children admitted to the Home during the year was 138, coming from forty-two different families. The average number of children in residence in the Home each day was 37, and the average length of residence of each child was 97 days.

When the war broke out, the committee in charge of Crookston Home agreed, in the case of any man called up for military service, whose wife was dead, and who had no relatives with whom to leave his children, that, so far as there was accommodation at the Home, his children should be received and cared for until the father's return. In several instances advantage has been taken of this, and men who were sent abroad have left with an easier mind, feeling that their little ones were being well looked after.

During the year the committee have had many gifts and entertainments provided for the children, and they cordially thank all those who have done so much to help. Clothing and old linen are always acceptable, especially clothing suitable for very young children. The Guild of Play have been very helpful, and members of the Guild have gone regularly and taught the children songs and games, in which they have shown a keen interest.

5. *Children's Shelter.*—The number of children admitted to the Shelter during the year was 233, the average number in residence each day being 5. The number of meals supplied during the year was 5566, and 116 of the children were clothed.

The Shelter is open at any hour night or day for receiving children who are destitute, or found wandering, or where the parents are not in a fit state to care for them, and they are kept until they are restored to their parents, or until some suitable house is found for them.

PROVISION FOR THE PROTECTION OF INFANT LIFE

5. *Aberdeen Branch.*—The work in the Aberdeen district repeats the same leading features as the work in the other districts. The subjoined notes, taken partly from the Annual Report for 1914 and partly from an interview with the secretary recorded by Dr Mary Menzies and Miss Ireland, show both the extent of the work done and the general principles followed. One point emphasised in the report is "the pleasant evidence of the harmonious working of the Society alongside of other agencies interested in the welfare of children." The district is territorially a very large one. It includes the islands of Shetland. This is convenient, because, in normal times, Aberdeen has direct and rapid sea intercourse with Shetland.

Report by the Aberdeen District Committee

For Year ending 31st December 1914

As will be seen from the statistical summary, the total number of cases investigated during the year was 509, involving the welfare of 1676 children, as compared with 573 and 1890 respectively in the previous year. Of this year's total, 25 are from the Shetland district. A comparison of figures for the last ten years may be of interest to the friends who give of their sympathy and their means to this very necessary work, viz.: 1904, 263; 1905, 257; 1907, 254; 1908, 244; 1909, 304; 1910, 494; 1911, 425; 1912, 450; 1913, 573; 1914, 509. Compared with 1913, the figures for 1914 show a slight decrease. This, to the committee, is a matter for satisfaction, because it has to be continually borne in mind that the fundamental principle of the Society is so to exert its influence on defaulting parents and guardians that they be brought to see their responsibility towards their children. Under the heading "Neglect and Starvation," 472 cases are accounted for. Such a statement is painful reading, and proves, beyond all doubt, that there is a vast amount of preventable child misery and suffering, which only a society founded on the principle named above can eventually cope with. The chief forms of neglect were underfeeding, insufficient clothing, dirt, and vermin—the inevitable result of which is physical suffering and degradation.

The Work Done

Steadily the Society is winning its way, and getting into closer contact with the terrible evils of child neglect in its many phases. A few specimen cases mentioned on pages 23 and 24 of this report will show the nature of the work in which the inspectors are engaged. Tact and knowledge of human nature are necessary equipments for this work, and it is pleasing to report that the local inspectors possess these qualities in a high degree. One of the signs of the success of their work is that, in a large number of cases, the parents were brought to confess their wrong-doing. Only when numerous warnings and entreaties have failed to bring them to their senses, a prosecution before the Sheriff becomes necessary. "Just the drink," is a phrase oft repeated, and, were it not for the evil results, the pathetic utterance makes one wish the defaulter could go free; but, in the interests of the children, such a proceeding would be unwise, and sentiment must give place to justice. Although a term of imprisonment has not in all cases proved to be a cure, yet the confinement and separation from present surroundings has had a salutary effect on the delinquents, and has not infrequently acted as a deterrent on similar offenders. The breaking-up of a home by the removal of children is always a very regrettable step, and is only resorted to when no other course of action is available. During the year, two children, by order of the Court, were permanently removed from the custody of their parents and placed in Industrial Schools, while 33 were placed in Homes, and contributions made by the fathers towards their maintenance. In each of the last-mentioned cases the parents were living apart, with the result that the children were utterly neglected, and, in their interests, intervention by the Society became a necessity. Reference should be made to the effects the outbreak of the war has had upon the work of the inspectors, and it is satisfactory to be able to report that only two women whose husbands were serving under the Colours had to be brought before the Sheriff and sentenced to a term of imprisonment. During the year two visits were made

to the Shetland Isles, and twenty-five cases dealt with, one of which had to be prosecuted, the father being sentenced to a term of imprisonment. The committee would again remind all School Boards and Parish Councils in the county of the Society's readiness to visit and investigate any case of cruelty or neglect which may become known to them in their respective districts, immediately on notice being sent to the secretary of the Aberdeen branch.

ABERDEEN BRANCH STATISTICS

	1913.	1914.	Total since formation of Branch.
Total number of completed cases	573	509	4,794
,, ,, offenders involved	789	698	6,338
,, ,, children affected	1,890	1,676	15,682
,, ,, supervision visits	3,260	3,480	22,278
Classification of Cases—			
Neglect and starvation	550	472	4590
Ill-treatment and assault	11	12	76
Abandonment	..	..	5
Exposure	2	3	21
Begging, singing, and selling	..	1	46
Immoral surroundings	5	10	16
Other wrongs	5	11	40
	573	509	4704
Action taken—			
Warned	535	477	4451
Sent for trial	30	20	235
Otherwise dealt with	5	11	77
Dropped after investigation	3	1	31
	573	509	4794
Result of Cases prosecuted—			
Imprisoned	29	16	213
Fined	..	1	9
Inebriates' reformatory	1	1	4
Reprimanded	..	2	9
Probation	..	1	1
	30	21	236
Number of persons convicted	38	25	287
For offences against children	95	70	786

Imprisonment, 6 years, 7 months, and 10 days; 4 years and 25 days.

Children—How dealt with—			
To Industrial Schools	4	2	39
,, Poorhouse	73	91	488
,, Homes	7	33	62
,, Otherwise disposed of	2	36	62
	86	162	651

Prosecuted Cases.

Offence.	Accused.	Children involved.	Sentence.
Neglect	Father Mother	7	4 months. 4 months.
Neglect	Father Mother	6	30 days. 30 days.
Neglect	Father	4	6 months.

Neglect	Father	7	3 years Inebriate Refor.
Neglect	Mother	2	60 days.
Neglect	Mother	1	4 months.
Neglect	Father	4	3 months.
Neglect	Father	5	6 months.
Neglect	Father	2	2 months.
Neglect	Father	3	2 months.
Neglect	Father	3	2 months.
Neglect	Mother	1	40 days.
Neglect	Father / Housekeeper	6	3 months. / 30 days.
Neglect	Father / Mother	3	Put on probation. / 2 months.
Neglect	Father / Mother	6	2 months. / Put on probation.
Ill-treatment	Mother	2	2 months.
Ill-treatment	Guardian	1	Fined £10.
Contravention, Part I., Children Act	Mother	1	Admonished.
Exposure	Mother	1	15 days.
Begging	Guardian	5	Admonished.

Notes of Interview with Secretary

The Government has paid allowances to the inspectors in respect of children separated from the mother, and the children are boarded at Aberlour Home.

Payments are not always asked for from the Aberlour Home. When the Army and Navy stop the allowances to the mother, the allowance for the child is sent to the Home, and this makes Aberlour Home willing to take others. Aberlour never refuses admission. The war has increased the number of admissions. Between 40–50 taken in hand, which is abnormal.

At present there is no Home or Shelter, and the children have to be left in their own homes or a neighbour's until a suitable home has been found for them, or sent to a Poor Law institution. They are not readily sent to the Poor Law institutions.

Prosecutions.—Before war broke out, more fathers than mothers were prosecuted; now more mothers than fathers. Really, prosecution is the last resort. Children are not usually returned to the mothers; only one mother has had her child returned; she proved to be worthy. She came out of prison. Almost all the cases are from Aberdeen.

6. *The Work of the Glasgow Parish Council.*—The Glasgow Parish Council, as Local Authority for the largest parish in Scotland, naturally devotes a great deal of its energy to work under the Children Act. In his half-yearly statistical reports, Mr Motion, the Inspector of Poor to the Parish Council, always includes a more or less systematic record of this work. If I could bring together all his reports since the Act of 1908 came into operation, I should be able, from them alone, to show the many varieties of case covered by the Act and the limits within which its operations may be expected to bring profitable results. But one or two illustrations will serve the present purpose.

In 1910, Mr Motion prepared for the Parish Council a Supplementary Report on the Children Act, 1908. In it he dealt with the numbers of cases unreported; the failure of persons undertaking the nursing and maintenance of children to give the statutory

notice; cases of baby-farming; cases of blackmail; conduct of midwives in arranging for confinements and subsequent boarding-out of children; the flaw in the Act whereby "they are not bound to give us notice respecting the infants whose adoption they arrange so long as they do not keep them in their house longer than forty-eight hours"; illegitimate births in the homes of midwives; difficulties of obtaining conviction; questions of fostering immorality; arrangements with newspapers as to accepting advertisements; insurance of infants given out to nurse; removal of infants from guardians; prosecution for cruelty and neglect; question of able-bodied persons receiving relief for a dependant; children residing in brothels; provision for removal of children from undesirable parents or guardians; committal to industrial schools; non-deterrent effect of prison on certain offenders; need for further powers; special powers conferred on School Boards as to cleansing of children—"a walk through any of our slums will prove that much yet remains to be done to enforce these powers"; the general justification of the provisions by the results obtained. In a further Memorandum, dated 1911, Mr Motion adds to his Supplementary Report many concrete instances justifying his views. Each of his six-monthly statements contains a summary of the work done, with records of cases dealt with by prosecution or otherwise. When the whole question of the administrative machinery for dealing with children comes to be considered with a view to the better organisation of energies, these records of facts by Mr Motion of the working of the various clauses of the Children Act will be of immense guiding value. Already, in the chapter on the management of children under the Poor Law, the substance of the statutory powers and duties of the Parish Council has been sketched. The framework of this sketch Mr Motion fills with illustrations. He produces cases for practically every section under which the Parish Council has powers. From the wealth of material it is very difficult to select examples without overloading this particular section of our inquiry. The excerpts given below from the report for the half-year ended 15th May 1917 are a fairly typical example of the six months' work of the Glasgow Parish Council.

But it must be admitted that, in their sad monotony, these strenuous and large-hearted efforts by a great public authority to conserve the child-life of the country prove how much still remains

to be done on the margin of our city civilisation, and how tangled individual problems are. Reduced to figures, the facts are impressive enough; but without experience of the actualities, the imagination cannot easily realise the amount of human misery those figures represent.

Children Act, Part I. (Infant Life Protection)
Half-year ending 15th May 1917

	No.	Inc.	Dec.
Notices received from new guardians	113	1	..
Infants notified in terms of Section I. (1)	192	..	3
Infants removed—			
To parents	60	..	3
To other guardians	52	..	2
To other guardians in other parishes	25	7	..
With guardians to other parishes	11	1	..
To hospital	22	8	..
Off roll as having attained the age of seven years	45	13	..
Removed on J.P. Order	2	1	..
Deaths reported	22	10	..
Total	239	40	5
Visits made by Infant Protection Visitor	1400	..	17

The number of infants notified since the Act came into operation on 1st April 1909 is 4623, with 3202 guardians. The number now remaining under supervision is 603 infants, with 564 guardians.

During the half-year, 72 infants were notified to us by the Medical Officer of Health as having been born in the houses of various midwives, and in connection with the Deserted Mothers' Home.

Prosecutions for Failing to Notify, etc.

During the half-year four cases were reported to the Procurator Fiscal, and disposed of as follows:—

On 2nd March a woman was fined 10s. or 5 days' imprisonment for failing to report the death of an infant under her care to the Procurator Fiscal and Parish Council.

On 22nd March a soldier's wife was admonished for failing to report to the Parish Council the removal of an infant which was under her care.

On 3rd May another soldier's wife was fined 10s. or 5 days' imprisonment for failing to report the death of an infant under her care to the Procurator Fiscal and Parish Council.

On 7th May another woman was fined 10s. or 5 days' imprisonment for a similar offence.

Quite a number of other cases might have been reported, but the defaulters were allowed to go after being severely reprimanded.

Adoption Advertisements

In accordance with the recommendation of the Local Government Board, we still supervise all advertisements relating to the above, and the results are as follows:—

	No.	Inc.	Dec.
Certificates granted to persons offering infants for adoption, etc.	415	69	..
Certificates granted to persons who wished to nurse or adopt infants	20	..	8
Certificates refused—guardians undesirable	8	..	..
Inquiries made in this parish regarding guardians:—			
Satisfactory	18	..	25
Unsatisfactory	23	..	1
Similar inquiries made in other parishes regarding guardians:—			
Satisfactory	81	..	14
Unsatisfactory	52	..	7

	No.	Inc.	Dec.
Mothers placed in touch with suitable guardians for their infants . . .	23	..	18
Guardians who have adopted infants without payment :—			
Satisfactory	28	..	22
Requiring further supervision . .	6	..	1
Midwives granted permission to advertise their rooms for accouchement cases .	10	5	..
Total	684	74	96

This department is undoubtedly a very effective check upon baby-farming, and has been the means of preventing many children from being taken charge of by undesirable guardians, not only in our own parish, but in parishes all over the country. We continue to supervise all adoption advertisements, and are always on the alert, so that we may procure information regarding undesirable guardians.

This information is thereafter duly recorded, and as we are daily being consulted by mothers and others, we are always in a position to advise them as to the selection of guardians for their infants, and to assist them whenever possible. The following cases might be mentioned, in order to show how we are able to check baby-farmers :—

On 15th November an infant was born in the house of a Glasgow midwife, and same date was adopted by a party in ——, with the promise of a £5 premium. Three days later a telephone message was received from the Inspector of Poor of that parish stating that the child was in a most unsatisfactory home, and asking for our assistance as to what steps could be taken. We immediately took the matter up, and urged the midwife to have the child removed at once, in order to save further trouble, and same date the child was removed at our suggestion, and has since been adopted by a trustworthy party. Fortunately, by our prompt action, the money had not been paid over, otherwise the mother of the child would have been in a worse plight.

On 23rd March a woman in ——, who is nothing short of a "baby-farmer," was sentenced to 30 days' imprisonment at —— Sheriff Court for committing offences under the Children Act. The evidence was prepared by this department for the authorities in ——, and, after conviction, the local Police Inspector warmly complimented us for the able way in which the case had been prepared. We had occasion to report this woman to the local inspector in July 1915 for committing similar offences, and at that time she was fined £3 or 14 days' imprisonment. (See Minutes for 1st September 1915.)

On 10th May the mother of an illegitimate child was fined £1 in the Glasgow Sheriff Court for giving false information regarding her home address to the registrar of births. Her child was born in the house of one of the Glasgow midwives, and thereafter adopted by a good guardian in the country for a premium of £10. The midwife, in notifying the parish, gave a bogus address in Glasgow for the mother of the child, and the mother, when registering the birth, also gave this bogus address to the registrar, with the deliberate intention of concealing her identity. Being doubtful that the information furnished was not correct, we made further inquiry into the matter, and although we found that at the address given there was a girl of the same name, investigations proved that she was not the mother of the child in question. After considerable inquiry had been made in Glasgow, the mother was ultimately traced to a town about twenty miles distant from Glasgow. It was then learned that the address had been procured from a "death notice" which appeared in one of the Glasgow evening papers, and that the midwife, the mother, and her relatives were all implicated in the deception. After the Court, a relative called at our office and expressed sincere regret for what had happened, repaid all the expenses incurred by the parish in investigating the case, and afterwards went to see the party whose name they had used, to tender a humble apology. Although the case gave us a great deal of trouble, the result has been most gratifying, as midwives and others now realise that they cannot with impunity deceive the parish.

Children Act, Section 12 (*Cruelty to Children*)

Apprehended :—10 males, 35 females—total 45.

How disposed of :—

3 to 3 months' imprisonment.
3 ,, 2 ,, ,,
4 ,, 60 days' ,,
1 ,, 14 ,, ,,

1 admonished by the Sheriff.
6 sentence delayed.
12 placed on probation under the Probation of Offenders' Act.
15 cautioned by the Inspector and proceedings dropped.

In 11 cases following upon conviction, the children—31 in all—were committed: 26 to the care of the parish; 4 to the R.C. Home, Rutherglen; and 1 to relatives.

The whole proceedings were in respect of 112 children.

During the half-year 117 cases of alleged child neglect were reported to the parish, and disposed of as follows:—

Prosecuted, 45; turned out satisfactory after warnings from the assistant inspectors, 45; removed to other parishes, 3; disappeared, 1; still under observation, 24—representing 85 children. Of those remaining, 9 are the wives of soldiers.

Section 21 (*Committal Orders Revoked, etc.*)

Proceedings under this section were taken in two cases. In one case, representing three children, who had been taken from the parents, following upon proof that they were unfit to have their care, but in respect that they were now leading a law-abiding life, and had obtained a comfortable home, the Court granted warrant on 28th December last for the children to be restored to their parents. The committal of the children was formerly undertaken by this parish on behalf of the Inspector of Poor at ——, and the revoking of the Order was also undertaken by this parish at the request of that inspector. In another case, where the two children had been previously committed to the care of this parish, the Order on their behalf was also revoked, and the children handed over to their parents, who had now provided a comfortable home and were doing well.

Sections 58 *and* 59 (*Children under Improper Guardianship*)

Proceedings under the above sections were taken in 9 cases, representing 13 children —4 of whom had been boarded-out by this parish, and got beyond the control of their guardians; 1 had been boarded-out by Coldstream Parish Council, and also beyond control; 1 under the care of a criminal mother; and 3 beyond the control of their parents.

Orders were made by the Court committing them as follows:—5 to the care of the parish, father a soldier, and claim made for the separation allowance; 2 to Training Ship *Empress*; 2 to Industrial School for Girls, Dundee; 1 to Maryhill Industrial School; 1 to Nazareth House R.C. Industrial School, Aberdeen; 1 to Kilmarnock Industrial School; and 1 to Training Ship *Mars*.

In connection with the case which was committed to Maryhill Industrial School, the Glasgow School Board had previously got an elder sister committed there, and they agreed to take over this case as well.

In regard also to the case which was committed to Kilmarnock Industrial School, the boy had been boarded-out in Quarrier's Home, at the instance of the —— Parish Council, but had got beyond the control of his guardians, and was found wandering in Glasgow and handed over to this parish. We were then asked by the —— Parish Council to have him committed as stated at their expense.

An Order was only made against the parents to contribute in one case, as the other children were orphans, or mothers in receipt of parish relief.

7. *Local Government Board Cases.*—Frequently, cases of neglect or cruelty come before the Local Government Board for Scotland. It is not necessary to sketch the many channels through which information comes, or the particular methods of investigation, or the ways of disposal. A common type of case is where the parent or guardian is convicted and imprisoned, and the children have to be taken in charge by the Parish Council. Sometimes the National Society sends direct complaint; at other times inspectors of poor seek advice. It would be possible to produce a long and interesting series of cases, but two or three illustrations must serve.

(1) *Vagrancy.*—Vagrant; illegitimate child, boy, aged 5. Charged with failing to provide sufficient clothing, proper lodgings, keeping him in filthy and verminous condition. 14 days' imprisonment. Drunken, immoral; separated for nine years from husband; nine convictions. Boy removed to poorhouse; mother made no claim for child; hence no need for order under section 21 of Children's Act, 1908; boarded-out.

(2) *Safety.*—Parents and family, nine in all. Father consumptive; mother drunken. Children dirty and verminous and half-naked. Father in bed with youngest child; girl, aged 3, on fender. Complete neglect. S.N.S.P.C.C. removed children to a place of safety. Parish not willing to act. Four infants removed in a state of rags, dirt, and vermin, barefooted, and underfed; infant's body and legs covered with sores. In this case proceedings taken, and children forcibly removed by Order.

(3) *Illegitimacy.*—Oldest daughter (20) had an illegitimate child—helpless at 3 years of age. Father left country after child was born, never paid anything; the crippled and speechless infant lives with the grandmother, while the mother goes to service. No application for relief made. Poor Law Authority cannot act without an application; grandmother refuses to let child go to poorhouse, but would let it go where it could be treated. Proceedings against grandparents threatened; ultimately they agreed to let child go. But here the outside organisation has to threaten proceedings before the mechanism for securing attendance for the child is accepted. These cases are not common. But when the new schemes are developed they should become very rare.

(4) *Congenital Feebleness.*—Child suffering from congenital and incurable heart disease and dropsy. Parents, drunken and dissolute, had been previously convicted of cruelty. The boy died in poorhouse.

(5) *Disintegration of Family.*—A man, disabled by an accident; there were three children—two legitimate, one illegitimate (his wife's); wife has to earn her living at 10s. a week; she has to go out. The children must be boarded-out. The husband, besides being seriously ill with an incurable wound, involving much disagreeable attention, is, by temperament, pugnacious, and had, on a former occasion, deserted his wife. He refused all treatment in poorhouse until compelled. The S.N.S.P.C.C. keep touch with the Parish Authorities, and arrange that the children shall not suffer neglect; the family is thus disintegrated. The father and mother go to the poorhouse, to remain there indefinitely. The mother will probably find work when she is fit for it. Here the process of disintegration has been slow and long. The children are the new and growing points; but it is a poor start—early vitality impaired, social roots torn by transplantation, good or bad result as accident determines; the trail of the history never dying; partial outcasts grudgingly taken in; subsequent ability to fight for themselves more or less spoiled; ideal preparation for a life of failure and discontent.

8. *Conclusion.*—Shortly after the Children Act of 1908 came into force there was an effort to establish a National Council for the care of children. So far as I know, little came of it. From information obtained in casual conversation with members of school boards, probation officers, and some others interested in the care of children, I gather that the methods of dealing with children in the courts have undergone great improvement. But from what I have seen of children in the police courts of a considerable town, I cannot help concluding that, however efficient the police supervision of individuals may be, the method of cure by punishment has very restricted limits. The social evils, of which the cases I have selected are symptoms, cannot be removed rapidly or by punishment. That stern handling of parents is necessary, everyone recognises; but when the methods of enforcing the law make it almost normal for a man to ask a Shelter to keep his children because his wife is unfit to look after them, the social disorder thereby implied is too deep-set

to be rectified by a mere arrangement of police measures. But in the interests of the children, some action is necessary, and this is the real basis of the Act. It is unfortunate that, at so many points, the action taken, although it may be an immediate success, may ultimately place too heavy a handicap on individual children.

Under the Education (Scotland) Act, 1908, there is another method of dealing with neglect. Where, as the result of medical inspection or otherwise, it is discovered that children are neglected or without proper medical attendance if sick, the School Board, if satisfied that the parents for reasons of health or poverty cannot keep children fit for school attendance, may themselves take the necessary steps to make full provision for the children—food, clothing, medical attendance, and, if necessary, housing. These very extensive powers affect only the children of school age; but, indirectly, they affect the children of the pre-school ages. These powers of the Education Authority have been found in practice to work well. They can now be indirectly supplemented by the new powers of the Notification of Births (Extension) Act.

But this extraordinarily rapid growth of new administrative methods points to the need of some further systematisation. Already I have indicated the number of authorities involved in the working of the Children Act. To these may now be added the School Boards and the Health Authorities acting under their special powers. An increase of overlapping is inevitable. All the statutes and public bodies concerned have come into existence because, for some reason, they were wanted. But the field is now occupied by so many statutes and public bodies that, if merely as an economy of energy, some readjustment is necessary. What lines the readjustment should follow I am not concerned here to indicate; but it is certain that the provision for children tends to suffer from the multiplicity of administrative authorities responsible. I do not suggest that all those authorities can be reduced to one; but I do suggest that there is room for a re-investigation of the whole machinery for dealing with children from the standpoints of health, education, and crime. It is not so much a question of legal powers as of administrative correlation.

Addendum.—Note on Orphanages and other "Homes"

In this chapter, as well as in the chapter on "Provision for Mother and Child under the Poor Law," reference is frequently made to individual

orphanages and homes. It has not been possible to record details of all the orphanages; but the records here quoted show the houses most frequently used by the parish councils and "cruelty" societies. These orphanages do not confine themselves to the admission of children under five. Indeed, in at least one case (Dundee), children under five are expressly excluded. But at all the others mentioned, children under five as well as children of the older ages are admitted. I have no decisive data for estimating how many children under five are committed or spontaneously sent to the orphanages, but the number is large. From such information as I have collected from time to time, I can say that, as a rule, the claims on the institutions tend to outrun the accommodation available.

The following notes on one well-known home have been prepared by Dr Ernest Watt, after a special visit.

ORPHAN HOMES OF SCOTLAND, BRIDGE OF WEIR

Site.—The "Homes" are situated on an extensive site about one and a half miles from Bridge of Weir.

Buildings.—In 1878 the first buildings, consisting of two "cottages" or "homes," as they are called, and a central building, were opened. These cost about £13,000, all of which was contributed voluntarily at that time. The central building accommodated two "families" of thirty children and each "cottage" a similar number.

By the end of 1882 ten "cottages" had been built and opened. "From all parts of the country admission for orphan children was solicited, and as the founder (William Quarrier) aimed at turning no destitute child away, his desire to go on to greater things grew with the need." A desire to build as many cottages as house 1000 children was his next ideal. By the end of 1888 there were 28 buildings on the ground. These included the James Arthur training ship and a church (which now seats over 2000). In the year 1891, 513 children, in age from a few months old and upwards were taken in from different parts of the country. At the beginning of that year there were 711 in the Homes, which, with the 513 received, made a total of 1224 dealt with during the twelve months. In March of the same year 129 boys, and in May 103 girls, were sent to Canada, where homes were found for all.

In 1890 a building for a school was begun, which, in later years, has been enlarged until now it accommodates 1210 children in twenty class-rooms. At the present time there are 43 cottages or "homes"; two "invalid" cottages, one for boys and one for girls; and a hospital of two wards and two siderooms (32 cots), operating room, X-ray room, etc., within the site of the Orphan Homes (see appended photograph). On different sites, but under the same management, is an epileptic colony (for 30 women and 30 men) and the consumptive sanatoria buildings (140 beds). Each "cottage" or "home" is intended to accommodate a "family" of about 30 boys or 30 girls, together with a "foster" father and mother (a married couple without children of their own). The founder of the Orphan Homes considered that the prime qualification of these guardians should be their fitness to train up the children "in the nurture and admonition of the Lord." The male guardian may be employed as a plumber, joiner, etc., while the "mother" supervises the "household"—domestic duties such as cooking, etc. In the "cottages" where boys are accommodated, there are generally two or three who assist with the domestic duties. The same arrangement applies to the girls. In other words, every effort is made to initiate, as far as possible, the conditions that would prevail in the average thrifty domestic circle, and to prepare the way for a useful life where the boy or girl will adapt himself or herself to circumstances of all kinds. In addition, various trades are taught, including laundrying for the girls.

In construction each "home" has a dining-room, play-room, kitchen, scullery and annexes on the ground floor. On the first floor is the sleeping accommodation, generally in four rooms or dormitories. Outside, there is a back-yard for play—with swing, etc., and a covered-in portion for use in wet weather. The usual day's routine is, rise 6 a.m.; breakfast 7 a.m.; the school children attend school 9–12 noon and 1.30–3 or 4 p.m., while those under five amuse themselves in the play-room, are taken for a walk, etc. Usually it is found that only two or three children under five can be kept in each "home," and in

ORPHAN HOMES OF SCOTLAND, CONSUMPTION SANATORIA OF SCOTLAND, AND COLONY FOR EPILEPTICS, BRIDGE-OF-WEIR.

There are 77 Buildings already connected with the work.

Partial View of Homes.

Reproduced from a photo taken from the Bridge-of-Weir Road. Many of the Homes are not in view, but it will give friends some idea of the "Children's City." The Consumption Sanatoria are situated to the south and the Colony of Mercy to the west of the Homes, and are not seen in the picture.

two such visited at random only two children under five were found in each. On the other hand, on visiting the girls' and boys' "invalid" homes—reserved for children with slight ailments, who may be drafted direct there on admission or may have been for some time in one of the cottages, one found a larger proportion of children under five years. Thus, in the girls' invalid home there were 5 under five, and in the boys' 8 under five years.

Children admitted.—"The class of children eligible for admission are orphan boys and girls deprived of both parents, and fatherless children with no relative able or willing to keep them, from one to fourteen years of age, from any part of Scotland. Destitution is the title for admission, and there is no subscriber's line or voting paper required."

In the case of a fatherless family, all except the youngest child may be taken; the object of such an arrangement being that the mother is thereby able to earn sufficient to keep herself and one child. If that is not possible, then the whole family may be admitted. With orphans, the whole family are dealt with. Since the war, there has been an increased demand on the accommodation by families rendered fatherless by the war and also due to mothers spending their separation allowance in liquoring. Consequently, it has been found necessary to deal with a larger number of children under five years than in normal times. On the day of visit there were 28 aged four; 18 aged three; 4 aged two; and 2 under two in residence—a total of 52. The following is a brief outline of the family history of a few children taken at random:—

A. B., a female child, admitted in June 1915, along with two sisters aged 15 and 6 and a brother aged 4. At date of admission A. was aged 9 months and weighed only 7½ lbs. The mother had committed suicide a short time previously, the father was in the asylum, and the sister aged 15 was attending to the house and looking after her younger brother and sister, while an elder brother was at work. Now A. weighs 20 lbs. and looks very healthy, though undersized. A. has had to be kept continuously in the hospital since admission, and the nurse in charge (fully qualified) stated that much difficulty had been experienced in feeding her. The brother, aged 4, and the two sisters enjoy good health. The family were recommended to the Orphan Homes through the agency of a mission worker in Greenock.

C. D.; this child, now aged 5, was admitted in 1912 along with three elder children. C. was aged 1½ years on admission. The father, a semi-invalid and a widower, was earning only a small wage, and a mission worker in Coatbridge recommended the family. Since admission C. has suffered fairly constantly from malnutrition, and now tuberculosis is suspected. She has been in the hospital since November 1916.

E. F., a girl, aged 4. The father is in the Army and the mother in "desertion." E. was admitted from Edinburgh along with an elder brother. The mother at the time of "desertion" took with her one child, an elder sister.

G. H., aged 2½, was admitted on 8th May 1915 from Motherwell, along with a sister aged 13 and a brother aged 9. The father had died from "cardiac weakness" and the mother from pulmonary tuberculosis. On admission G. had bone tubercle, but now, after operation, all lesions are healed, and he looks a sturdy little fellow who, after many months of care in the hospital, has become a great favourite with all.

I. J. was admitted from Leith along with three other members of the family—the eldest 7. At the time of admission I. was 13 months old. The mother is deceased and the father in the Army. This family was admitted through the agency of the S.N.S.P.C.C.

K. L., aged 4, was admitted from Kirkcaldy. His mother is dead and his father is in the Army.

M. N., aged 4, was admitted on 30th November 1916, along with five elder brothers and sisters. The father was killed at the Dardanelles, and the mother, at the instance of the S.N.S.P.C.C., was convicted of keeping a brothel. It is considered that this family will become a "permanency" at the home.

The above summary gives a very imperfect description of the "Orphan Homes," but the useful work done therein is by this time so well known from practical results that further description would be redundant. It might be added, however, that of the boys who have in past years been emigrated to Canada, 550 have enlisted, and of these 42 are known to have been killed.

CHAPTER XII

SCOTTISH TRAVELLING EXHIBITION OF MATERNITY AND CHILD WELFARE WORK

1. *Origin of the Travelling Exhibition.*—In the year 1915, immediately on the passing of the Notification of Births (Extension) Act, the Standing Committee of the Scottish Unions of Women Workers formed a special Maternity and Child Welfare Committee. The Marchioness of Aberdeen and Temair was appointed convener. The special committee decided to promote the infant welfare movement by supplying information to local workers, by preparing leaflets for circulation, by recommending speakers when requests were made by local associations or others interested, by arranging special conferences, and by organising popular exhibitions. For these purposes they constituted from the membership of the Unions of Women Workers committees to operate in the northern, central, south-eastern and south-western Scottish districts. Under this scheme many meetings have been held, and many lectures and demonstrations have been given. But it was felt that, if the movement was to develop rapidly, something more was needed than verbal expositions. The first suggestion was a travelling caravan; but, though this has not been ruled out as entirely unsuitable, it was considered less suitable than a travelling exhibition on a larger scale. The various discussions resulted in the present Exhibition. The primary difficulty was the expense. But the Marchioness of Aberdeen, during her tour in the United States, was able to transmit money contributed by American friends of the infant welfare movement. The sum was sufficient to justify the committee in setting up the Exhibition. Only those familiar with this type of propagandist work can understand or appreciate the insight, the skill, and the labour necessarily involved.

In an official circular to the Unions, Mrs Ogilvie Gordon, D.Sc., Ph.D., honorary secretary of the special committee, writes :—

" In view of the permissive nature of the provisions in the Act, much will have to be done to make the provisions widely known, and

[*Photo by J. M'Knaught & Son, Peebles.*

(1) Left side and upper end of Hall, looking from Platform.

[*Photo by J. M'Knaught & Son, Peebles.*

(2) Right side, looking from Platform.

to create a popular desire to have work in this direction undertaken under all the Public Health Authorities. It is work that naturally falls in large measure upon women, and no trouble should be spared during this first period of the operation of the Act to make it thoroughly familiar in all women's societies and in societies connected with National Health Insurance, and to diffuse a full understanding of all that it will mean to Scottish homes and the Scottish race if these provisions are energetically acted upon. Propaganda will have to be carried on, and passed from burgh to burgh, from parish to parish, in every Scottish county."

The Travelling Exhibition is now the chief agency in the special committee's propagandist programme.

2. *First Opening of Exhibition.*—From the beginning the committee decided to work in concert with the local authorities for public health. The first opening took place at Keith on 7th August 1916. A record of the places visited since that date is given below. At the first opening of the Exhibition I endeavoured to place this Travelling Exhibition in correct perspective with the administrative bodies. As the address was definitely prepared with this object, probably the reproduction of it here is the shortest method of indicating the essential purpose of the Exhibition.

FIRST OPENING: KEITH, 7TH AUGUST 1916

A few months ago, at a Child Welfare Centre in London, a young doctor of high academic distinction told me that he had learned from the mothers much more than he was able to teach them. He was perhaps not quite fair to himself, but he meant to convey that the new infant welfare movement lives and progresses by the careful individual study of mothers and children. In the heavily burdened working-class community where he worked, this doctor found that the experience of life and the exigencies of living had taught the mothers of children many things that the ordinary doctor has little chance of studying. But, none the less, scores upon scores of mothers come to this Child Welfare Centre with their children in order that they may benefit by the advice of the doctor. The doctor trained in modern medicine has now placed upon him the duty not merely of curing children when they are sick, but also of establishing the conditions that shall prevent them from falling ill. In thousands of places over the world the care of mothers and young children has passed on to the highest plane of social duty. Long before the war the child welfare movement had been gathering force; but social workers, no less than medical enthusiasts and statisticians, had failed to create a common consciousness of definite duty. Where individual doctors had failed, conferences and congresses, departmental committees and royal commissions, did more or less succeed; and within the last ten years the new-born infant has received a great deal of social attention. But the war has opened men's minds and hearts. If there is now one thing that no one doubts it is that, while the fathers are dying for us abroad, we must keep their children from dying at home. It is the passionate sense of this obligation that has led the Scottish Unions of Women Workers to create this Exhibition.

What the Exhibition contains you will soon discover for yourselves. It has something to interest every member worthy to live in this community. But I wish to explain why a member of the Local Government Board for Scotland has been asked to open this Child Welfare Exhibition. The reason is simple. In 1915 Parliament passed, under

stress of war conditions, a small Act called the Notification of Births (Extension) Act, 1915. One purpose of the Act was to make it obligatory all over Scotland for any midwife, or nurse, or doctor, or other person attending a mother at her confinement, to notify to the Medical Officer of Health within thirty-six hours the fact that a birth had taken place. This obligation had been voluntarily undertaken in many localities under the Act of 1907. But the Act of last year made the obligation universal. The notification of a birth to the Medical Officer of Health may seem to the lay mind a very small public service, but it has become a legal duty, because careful investigators have shown that many of the deaths of children in the early days of life are due to preventable causes. Further, it has been shown beyond controversy that the life of the child after birth, and its capacity to live well depend on the health of the mother both during her period of expectancy and her period of nursing. The notification of a birth thus brings the public health service into relation with all the problems of maternity and early childhood. Accordingly, in the Act passed last year, there occurs the following clause :—

> "Any Local Authority within the meaning of the principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of Expectant Mothers and Nursing Mothers, and of children under five years of age within the meaning of Section Seven of the Education (Scotland) Act, 1908."

Here the Local Authority in the towns means the Town Council; in the counties it means the District Committee. The Local Authority has now the power to make arrangements for attending to the health of expectant mothers, nursing mothers, and children up to the age of five.

In the memorandum issued by the Local Government Board you will find an outline of the schemes that Local Authorities are now in a position to frame. Under a scheme it is open to them to arrange Maternity Centres where expectant mothers and nursing mothers may come for medical advice and treatment; to establish a system of home visitation by health visitors or doctors; to arrange that skilled and prompt attention shall be ensured to every mother requiring it; that hospital accommodation shall be available for dangerous or difficult cases; that schools for mothers and young women may be established in co-operation with the School Boards or Secondary Education Committees. The Local Authority may also establish Consultation Centres, where children up to the age of five may be brought for medical advice and treatment, and from which they may be visited. They may provide or arrange for hospital accommodation for sick children when satisfactory treatment is impossible at home; for Convalescent Homes for children in impaired health; for Day Nurseries or Nursery Schools wherever these are practicable, and that means in almost every village. They are now, by statute, in a position to prepare such a record of each child as will enable the Local Authority, through its Medical Officer of Health, to furnish every child of school age with a certified health schedule for presentation on admission to school. Briefly, the Local Authority is now able to apply public funds in the provision of organised care of the mother throughout her periods of expectancy and nursing and of the child until it passes from the home to the school.

In some of these services the Local Authority will receive Government grants to the extent of half of the outlays. The grants will be administered by the Local Government Board for Scotland under the regulations laid down by the Lords Commissioners of His Majesty's Treasury.

There is, however, one very important point. The Town Council or County Council may exercise their powers through a committee, and this committee must contain women. It needs no saying that the care of children is a woman's job. But, apart from such a committee, the Local Authority has complete freedom in utilising the services of all voluntary agencies and organisations that may exist or spring up in their district. The new Act really provides machinery for bringing together all the organisations that operate in the field of child welfare and maternity service. The voluntary agencies may thus find a permanent and suitable basis in the scheme of the Local Authority. The Local Authority may thus find power and device in the enthusiasm of the voluntary organisations. The new Act is obviously intended to bring the official Local Authority into one system with all voluntary energies.

You can now see why a Child Welfare Exhibition, created out of the enthusiasm of the Scottish Unions of Women Workers, may appropriately invite the presence of the Town Council and may appropriately be opened by a member of the Local Government Board.

3. *Syllabus of the Exhibition.*—The catalogue of the Exhibition is really a teaching syllabus. The exhibits are arranged to form

a curriculum of instruction. In the world of practical demonstrations a perfectly logical sequence is difficult to maintain; but through the twenty-one sections of the Exhibition some logical coherence is quite plain. The demonstrator, working on the lines of the seminar, first studies with the group a few simple tables of statistics. The average mother does not think in numbers; but she appreciates numbers when strikingly put. She needs her attention drawn to them. This stall, so experience indicates, attracts very few. This cannot be due to want of interest; for the numbers that when written pass unobserved, have their full mental effect when spoken. This has been tested over and over again. It shows at once the value of oral teaching and the need for simplicity of presentation. The intention is to show the magnitude of the problem of the under-five child, both in Scotland as a whole and in the particular locality. With the problem thus put, the demonstrator takes her group through a wide range of studies to show how the problem is solved. At every step the instruction is adapted to the knowledge of the pupils and to the nature of their questions.

At various points it would be possible to expand and elaborate the materials of instruction; but the elaboration must keep within the practical limits prescribed for a travelling exhibition. In given places, however, local experts have brought forward special exhibits for temporary use, and in one or two instances have contributed exhibits for permanent use. As experience grows, the demonstrators will know what further teaching material will be of service and along what lines the syllabus may be developed. As it stands, however, the syllabus presents a well-loaded course of practical instruction. Workers in this field have repeatedly asked for copies of the syllabus. These inquiries are numerous enough to justify its reproduction here. The syllabus represents the teaching as it is actually sustained by the materials exhibited. This I have verified on several occasions. The exhibition is a demonstrational classroom, not a museum.

MATERNITY AND CHILD WELFARE TRAVELLING EXHIBITION

Lent free to local committees, provided the cost of transport from the previous place visited and all local incidental expenses are defrayed. (Application to be made to Hon. Secretary of Exhibition Committee.)

SCOTTISH MOTHERS AND CHILDREN

PURPOSE OF THE EXHIBITION

The main purpose of the Exhibition is to interest the public in the need of organised work for child welfare and for the assistance and personal guidance of parents.

The Exhibition will demonstrate the methods being followed in places where child welfare work is in active progress. Useful hints may be gathered by all, and it is important for every countryside to know that their local Public Health Authority **may now use rates for the development of this work,** and that a Government grant is available through the Local Government Board of Scotland, out of which half the sum expended locally may be refunded. The condition of this refund is that the local Public Health Authorities shall prepare a suitable scheme for local work, which shall be approved by the Local Government Board of Scotland.

The local Public Health Authorities can exercise this right or not as they may determine. These authorities are representative bodies, and it is imperative that the people, and especially the women and mothers, in every district should themselves realise what is wanted in their own locality, and should support and encourage their Public Health Authority in framing a suitable scheme and putting it into operation.

EXHIBITS

1. Statistics of Death-Rate among Infants and Children.—Mortality of Infants under one year—in Scotland; in typical Scottish cities and rural districts; in the locality visited.

The Common Causes of Death among Children from one to five years of age, and Statistics for Scotland.

2. "Mother and Baby" Welfare Centre.—Scales to Weigh Baby; Why Baby should be Weighed; Importance of Regular Hours in Feeding and Attending to Baby; Summer Diarrhœa; Dangers of Impure Milk, Soothing Syrups, Comforters, Flies, etc.; Consultations at the Centre; System of Report Cards used at Centre by the Mothers; the Infant Visitors, etc.; Reference Card Index of Cases visited and reported upon; Index of Patterns kept for convenience of the Mothers; Suggested Equipment for a local Maternity and Child Welfare Centre.

3. Guidance for the Mother.—Suitable Clothing for Expectant Mothers; Special Outfits and Appliances; Importance of Care of the Teeth; Regular Food; Sufficient Rest; Photographs of Welfare Centres where Mothers may go for Advice and Help; Maternity Homes; Model Bed and Bedding; Suitable Clothing for Nursing Mothers.

4. How to Bath and Dress the Baby.—Baby's Dressing-table, Dressing-basket, and Toilet Requisites; Bath and Thermometer; Model Bath (Dr Truby King); Right and Wrong Way to Bath Baby; Use of Powder Puff, etc.; Attention to Baby's Eyes, Ears, and Scalp; Home-made Folding-screen to protect from Draughts; Model Sets of Clothes; "Changing-table"; Freedom of Limbs—let Baby exercise Limbs and Body in Bath or Cot, or on suitable Table or Cushion.

5. Clothing for Baby.—First Clothes; Shortened Clothes; Toddler's Clothes; Australian Kit for Baby; Knitted Garments; Unsuitable Sets of Clothes, with too many Garments, or too close and warm; Suitable Sets of Clothes, few in number, and neither too warm nor heavy; Specimen of Clothing for a small and delicate Baby.

6. Baby's Food.—Importance of Breast-feeding; Regularity in Feeding; Avoidance of Overfeeding; Models of Baby's Stomach (*a*) at one week, (*b*) at one month, (*c*) at three months, (*d*) at six months; Cow's Milk—Sterilisation by Simple Methods; Cover to keep off Flies, Dust, etc., from Milk Jug; Milk Measures; Teats and Teat-stand; Good and Bad Feeding-bottles; Makeshift Feeding-bottles; Methods of Washing Bottles and Teats.

7. A Separate Bed for Baby.—Specimens of Sleeping Cots prepared at home from (*a*) "Pilgrim Basket"; (*b*) Banana Crate; (*c*) Canvas. Canopy Cot; Model Cot (Dr Truby King); Cot-net; Sphagnum Moss Bedding; Number of Hours of Sleep required; Fresh Air during Sleep; Model of Room showing suitable position of Baby's Cot at some distance from Mother's Bed; Outdoor sleeping.

8. Sources of Danger to Babies and Toddlers.—Dirty Surroundings; Flies and Vermin as Disease Carriers; Comforters (dummy teats); Unguarded Fires; Painted or Hard Toys; Scraps lying on Floor when Baby begins to creep and toddle. Means of Protection —Strict Cleanliness; Simple Fireguards; Soft Toys; "Kicking-blanket" on floor for Baby's use; Playing-pen; Crescent-table; Commode Chair.

MATERNITY AND CHILD WELFARE WORK

9. Outdoor Exercise.—Simply made Perambulator; Perambulator with "Ventilating" Hood; Pushcarts that cramp Baby's Body and Pushcarts that are comfortable; Open-air Stretcher Beds.

10. Early Mental Activities.—Models and Photographs of Day Nurseries; Nursery Schools; Play-gardens and Play-grounds; How to train the Senses of Sight, Touch, Hearing; Montessori and Frœbel Methods; Chassevant Musical Training; Day Nursery Equipment suggested.

11. Care of the Eyes.—Baby's "Sore Eyes"; Red and Swollen Eyes; Preventable Blindness; the Roller Towel; the Sponge and Handkerchief as Sources of Infection; Eye-bath; "Fun" that causes Eye Tragedies; Right and Wrong Positions for Reading; Sight Tests; Defects of Sight and their Treatment; Eye "Clinic" for Babies and Toddlers.

12. Nose, Ear, and Throat.—Section of normal Nose and Mouth; Correct Breathing; Section of Nose and Mouth where Adenoidal Growths have developed; Difficulty of Breathing; Mouth-breathing and its Effects; Specimen of removed "Adenoids"; Types of "Adenoidy" Faces; Snoring in Sleep—"Puffing Billy"; the Dunce's Cap; Rickety Chest as result of Adenoids; Delicate Structure of the Inner Ear; Ailments brought on by sudden Noise-shock; Slapping; Accidents, such as Inserted Pencils; Neglected After-effects of severe Colds, Whooping-Cough, Measles, etc.; Hearing Tests.

13. Care of the Teeth.—First Teeth; Their Development and the Relation to the Second Teeth; Baby likes Hard Crusts; How to develop Wide and Healthy Gums; A Clean Mouth; Toothbrush Drill; Tooth Powder; Models of Bad Nutritional Teeth; Contracted Arch; Receding Gums; Crooked Teeth; Upper Jaw Protruding; Lower Jaw Protruding; Benefits of Treatment; Dental Clinic.

14. Special Schools and Institutions for Children.—Open-Air Nursery Schools (Tubercular tendency); Nursery Schools for Mentally-defective Children; Children with Skin troubles; Deaf and Dumb Children; Blind Children; Cripple Children; Schools for Children during Convalescence; Holiday Schools; Importance of early Detection of Physical or Mental Weakness; Photographs of Children suffering from Tuberculosis, Rickets, etc.

15. Hints for Mothers in First Aid and Home Nursing.—Use of Bandages, Cotton-wool, Boric Lint; First Aid for Cuts, Scalds, Blows and Contusions, Sprains, etc.; Various Methods of Disinfection—personal and for rooms; Steam Kettles—homely device when none in the house; Bed-tray; Feeding-cups; Cradle for Wounded Limb—Band-box device for same purpose; Medicine Glasses; Mackintoshes; Enema Syringe; Ring Cushion for Bed-sores; Spittoons; Coal wrapped in paper; Red Cross Box; Handbooks.

16. Two Contrast Rooms.—(*a*) Clean and Tidy Bedroom suitably arranged by a Mother; (*b*) Neglected and Untidy Bedroom, where vermin gather and food gets contaminated.

Model Window—open at top and bottom; the Hinckes-Bird Ventilating Window; Home-made Adaptations.

17. Housewifery and House-Cleaning.—Simple home-made Economies—Match-box Firelighter; Paper Firelighters; Stove-brush from Stocking; Coal Economiser Paper and Recipe; Brown Paper Picture Frame, "Light" Shade, Knife-cleaner; Milk or Jug Cover; Home-made Cedar Mop; Renovated Hair Sieve; Tins Painted and Polished; Kneeling-mat from Fish Basket, etc., etc.; Home-made Larder; Fireless Cooker (hay-box); Oven from Biscuit Tin; Inexpensive Cleaning Materials; Personal Wear while cleaning.

18. Economy in Clothing.—Specimens of New Clothing from suitable Patterns for Children of all ages from one year to 12 or 13 years old; Specimens of Made-down Clothing for young Children, from best part of Adult's Worn Garments; Woollen Jerseys, Knickers, Boys' Suits, Caps, Petticoats made from best part of Stockings; Re-footed Stockings; Children's Garments and Household Articles made from Flour-sacks, Meal-sacks, and Oddments.

19. Wholesome Foods and their Relative Nutritive Values.—Glass Bottles containing 1 lb. weight of a few typical Grain and Pulse Foods—flour, maize, oatmeal, lentils, peas, beans; Glass Bottles containing (1) the amount of solid nutriment, (2) the quantity of water in 1 lb. of each of these foods, compared with the solid nutriment and water in beef, potatoes, cheese, eggs, milk, fish, and vegetables; Glass Bottles with quantities showing the relative proportions of protein, starch or sugar, and fat in 1 lb. weight of all of these foods; Wooden Models, with bars of colour in different widths, to represent these proportions.

Charts and Diagrams illustrative of the same points.

Suggested Dietaries for adults, children, invalids.

20. War-time Rations in Bread, Beef, and Sugar.—The daily rations of these three foods for one individual; suggested substitutes for the rationed foods; relative cost of ¼ lb. of various substitutes and the nourishment value; recipes and leaflets on war-time cookery.

21. Literature Table.—Useful pamphlets and leaflets on subjects included in the Exhibition will be on sale at ordinary trade prices.

SEE DAILY ANNOUNCEMENTS
on Blackboards for the

Special Demonstrations of War-time Dishes and Hay-box Cookery.
Talks to Mothers on various subjects included in the Exhibition.
Evening Lectures on special subjects by Experts.

4. *Supplementary Demonstrations.*—Of the localities visited many have been in a position to supplement the exhibition in various ways. At Glasgow, a large room was devoted to an all-day demonstration of the work of a day nursery and the work of a kindergarten. A special room was also devoted to housing. At Greenock, the occasion was used to give demonstrations and directions in the preparation of infant clothing. At Kilmarnock, a day nursery was shown at work. At Edinburgh, arrangements were made for the following: exhibit of an infant health centre, with attendants and full equipment; a day nursery; demonstrations of play centres; demonstrations of kindergarten work; demonstrations of Montessori group work. There were daily demonstrations in methods of cooking, in the interpretation of food values, in rationing, and in the general economy of food. There were also special demonstrations in the washing of babies and in the cutting-out of infant clothing. At nearly all the places visited lectures were given by medical men, nurses, or other experts in the work of maternity and child welfare. All through the tour these expository lectures have been a prominent feature.

5. *Places visited.*—The following list shows the places visited within the first ten months of the Exhibition's history. The wide area was actually covered in eleven and a half months, the Exhibition being stored for a period in the depth of winter. The populations interested amount to a large total. In the smaller places, the visitors and second visitors numbered hundreds; in the large places, thousands. At each place, the Exhibition stays for two or three or four days, according to demand or arrangement. In the larger places it has spent a whole week, and, repeating the experience of other exhibitions, it has grown in popularity every day of its sojourn.

One lady wrote: "I thought you would be pleased to hear that I sent our maids to the Exhibition last night. They came home full of enthusiasm, and the cook said to me she could have stayed all night. They seemed to have got so many hints;—it shows that such a thing does appeal and is most instructive."

As the result of experience, it is found that the Exhibition requires at least two or three days to set up and a day to take down. The lay-out of the materials has, in a certain measure, to be adapted to the local accommodation available. For the longer distances the Exhibition has to go by rail; for the shorter distances, by motor vehicle. The expenses falling on the Central Exhibition Committee include outlays for the provision of material and the salaries of the superintendent and her assistant. Local expenses are met by the local committee, or the Local Authority. Some of the outlays rank for the imperial grant paid to Local Authorities by the Local Government Board. But even when local contributions, both official and voluntary, are allowed for, the non-ranking expenses by the Central Exhibition Committee must always be a very large proportion of the total outlay.

The energy and enthusiasm shown by the organising committees specially formed at the various places are beyond praise.

One object of the Exhibition Committee has always been to secure that, in each place, a permanent committee of child welfare was established, where none existed before, or that other definite measures were taken to promote the movement. In this object the committee has usually succeeded.

List of Places Visited

In the north-eastern district, under the Aberdeen and North-Eastern District Committee, during the months of August, September, October, November 1916:—Keith (opening of Exhibition, 7th August), Rothiemay, Aberchirder, Cornhill, Dufftown, Aberlour, Buckie, Cullen, Banff, Inverness, Elgin, Hopeman, Lossiemouth, Huntly, Insch, Maud (sixteen places); in the central district, under the Dundee and Central District Committee, during the months of January and February and the first few days of March 1917:—Perth, Dundee, St Andrews, Dunfermline, Kirkcaldy (five places); in the south-western district, under the Glasgow and South-Western District Committee, during the months of March and April, and the first half of May:—Glasgow, Clydebank, Greenock, Troon, Ayr, Kilmarnock, Motherwell, Hamilton (eight places); in the south-eastern district, under the Edinburgh and South-Eastern District Committee, the following places were visited during May, June, July, and August:—Edinburgh, Leith, Musselburgh, Alloa, Stirling, Linlithgow, Peebles, Galashiels, Hawick, Jedburgh; during the month of September the Exhibition is engaged under the Middle Ward of Lanark County District Committee to visit four of their chief centres of population. Airdrie expects the Exhibition early in October. Thus, within the first year of its existence, the Exhibition visited thirty-nine places, and the engagements already made cannot be fulfilled before the spring of 1918.

MATERNITY AND CHILD WELFARE COMMITTEE

Convener, The Marchioness of Aberdeen and Temair. Acting Committee for the Exhibition: Vice-Convener of Committee, Mrs Leslie Mackenzie, Edinburgh, Convener of the South-Eastern District Committee; members *ex officio*, Mrs Greenlees, Glasgow, Convener of the South-Western District Committee; Mrs Troup, Broughty Ferry, Convener of the Central District Committee; Mrs Forbes of Rothiemay, Convener of the North-Eastern District Committee. Representative members: Mrs Forrest, Glasgow; Mrs Mackenzie Anderson, Glasgow; Mrs Somerville, Edinburgh; Mrs R. K. Hannay, Edinburgh; Mrs Gibson, Dundee and Broughty Ferry; Mrs Sloan, St Andrews; Miss Bentinck Smith, D.Litt., St Andrews; Mrs Dingwall Fordyce, Brucklay, Aberdeenshire; Lady Adam Smith, Aberdeen; Mrs George Esslemont, Aberdeen.

Hon. Secretary, Mrs Ogilvie Gordon, D.Sc., Ph.D., 1 Rubislaw Terrace, Aberdeen.

Lecturer and Custodian: Miss Winifred Howard, First Class Diplomée Dom. Sc. (Battersea), Household and Social Science Certif. (King's College, London); Assistant, Miss Elizabeth Chalmers, trained nurse, three years' fever training, three years' general training, eighteen months Sister in an Auxiliary War Hospital.

6. *Donations.*—As already stated, the initiation of the Exhibition was made possible by the donations of American friends of the movement.

"The Acting Committee of the Maternity and Child Welfare Exhibition desire to record their indebtedness to the following American donors for subscriptions kindly sent through the Marchioness of Aberdeen and Temair:—Mr David Kirk, Pittsburgh; Miss Elizabeth Lauder, Pittsburgh; Mr T. M'Kay, Detroit; Mr Wm. Gouverneur Ramsay, Wilmington; Mrs Mary Reid, Springfield, Mass.; Allied Bazaar in Chicago ("Thistle" and "Shamrock" Booths); National Allied Relief Committee (from the Boston Bazaar Fund)."

Through the good offices of Dr Charles Templeman, Medical Officer of Health, Dundee, a group of generous Dundee business men have contributed a total sum of £200.

7. *General Conclusion.*—This record justifies the Exhibition. Some years ago the National Association for the Prevention of Tuberculosis maintained a Tuberculosis Exhibition, which visited a large number of places in Scotland. From personal knowledge I am able to say that the Tuberculosis Exhibition was of the highest value in stimulating the interest of the localities, in arousing individuals to the need for action, and in making clear to local authorities the nature of tuberculosis problems. In a multitude of ways the exhibition helped the administrations. Its work is now paralleled by the work of the Maternity and Child Welfare Exhibition. As a method of education, it is of the first rank. As a platform for the organisation of practical ideas, it is inviting and successful. As a guide to the localities in the types of activity open to them, it is perhaps most successful of all; for it brings the numberless details of practical management into relation with the forms of official administration. As a free and spontaneous organisation within a great and growing movement, the Exhibition has put to the test many practical experiments, and that in a way not possible to a strictly official body. As, under the new legal powers, the public

health local authorities have become a centre for the organisation of all voluntary energies concerned with motherhood and childhood, so, reversely, the Exhibition has become a centre for directing technical and official proposals along the lines of practical management.

For these among other reasons I consider that such an exhibition should be maintained in Scotland until the outlying parts of the country have been fully explored. It is probable that in the large cities, and in some of the larger towns, local exhibitions or working museums will soon be established. These, in their kind, are excellent ; but for a considerable time the Travelling Exhibition will continue in demand because it is peculiarly adapted at once to stimulate the imagination and to excite the practical sense. I should like to see it maintained for at least a year or two. Above all, I should like it, in whole or in part, to visit the outlying villages of the Highlands and all the principal Islands of the west and north. This would mean time and money ; but the money and the time would be well spent.

Lastly, I may add that the Exhibition has received the warmest commendations from the many public and professional men and women that have taken part in the daily opening ceremony. These have included conveners of counties, lord provosts, provosts, conveners of health committees, medical officers of health, medical consultants and specialists, and many others engaged or interested in the maternity and child welfare movement. At Glasgow the Principal of the University and President of the Medical Council for Great Britain and Ireland took part. At one of the Edinburgh meetings the Moderator of the Church of Scotland performed the opening ceremony. At another of the meetings the Right Honourable Robert Munro, K.C., M.P., His Majesty's Secretary for Scotland and President of the Local Government Board for Scotland, opened the Exhibition. In doing so he read a letter of appreciation from Lord Rhondda, then President of the English Local Government Board. The Exhibition thus has the inestimable advantage of being supported, officially and personally, by the head of the Public Health Service in Scotland and by the head of the Public Health Service in England.

Note.—The photographs reproduced show the Exhibition as it was set up at Peebles.

CHAPTER XIII

THE BIRTH-RATE

"It is safe to predict," says Professor Matthew Hay, LL.D., "that, owing to the continuously rapid decline in the birth-rate in this and many other civilised countries, the time will soon be reached when the birth-rate will receive from the community as much attention as is at present given to the death-rate." This is taken from a "special report on the births in 1911." The report has not yet been made public, but Professor Hay has kindly put a proof at my disposal. Like Professor Hay's other reports and studies, this shows the usual mastery of materials and originality of approach.

The birth-rate, however, does not come directly into the scope of the present inquiry. Otherwise, I should have presented with some fullness the general methods and results of this intensive study. A note must be enough.

The study deals with over 4000 mothers, 3570 of whom were married, 439 unmarried. The actual number of children born alive was 4057. The points selected for analysis are fertility in relation to age of mothers, sex of children in relation to age of mother, fertility and size of house, feeding of infant and age of mother, feeding of infant and size of house, twin births, causes of death of infant in relation to age of mother, deaths of legitimates *versus* deaths of illegitimates, and many other derivative problems.

The results are presented in a series of carefully designed tables and percentages.

Of the results, perhaps the most striking is the discussion of the relation between fertility and size of house.

"This has been tabulated in its bearing on the question as to whether the mothers in the poorer households are more prolific than those in the better-off households. Table D gives the number of births for each age period and each size of house up to houses of five rooms and upwards. It also gives the proportion of births in each size of house to the number of houses of the same size as found at the census. The figures are interesting, but not conclusive, as it may be safely assumed—and the figures in the table

suggest it—that the mothers, as their family increases and the earnings of the husband grow, tend to move up to larger houses, with the result that the larger houses contain a greater proportion of older mothers, and therefore, of mothers at the less fertile ages than the smaller houses. But many one-roomed houses are occupied by single unmarried persons or by widows, and thus the proportion of births in such houses is unduly low.

"The table shows that there were 11·5 births in every hundred one-roomed houses, 15·9 in two-roomed houses, and 3·5 per cent. in houses of five rooms and upwards. Two-roomed houses, therefore, witness, in proportion to their number, nearly five times as many births as houses of five rooms and upwards. This striking difference is, no doubt, due to a greater natural productiveness in the class of women occupying the smaller houses, but it may be alleged that it is also materially influenced by the consideration of age already referred to. If the latter disturbing element is in some measure eliminated by limiting the comparison to mothers between twenty and thirty-five years—mothers under twenty being omitted because of their being drawn in undue proportion from the working classes—the proportion of births to size of house becomes 10·2 per cent. for one-roomed houses; 12·6 per cent. for two-roomed houses; 5·6 per cent. for three-roomed houses; 4·2 per cent. for four-roomed houses; and 2·4 per cent. for houses of five rooms and upwards. These numbers in their relation to one another do not differ substantially from those given for all mothers, and thus make it clear that, apart from the question of age, the fertility or productiveness of mothers in the smallest houses—houses of one and two rooms—is very much higher than of mothers in houses of larger size." (Tables not reproduced.)

Into the causes of high or low birth-rates it is not our duty here to enter. But the fact that the birth-rates in the smaller houses are greater than the birth-rates in the larger houses—a fact confirmed by Dr Chalmers' analysis of the Glasgow figures—demonstrates that, from every standpoint, life is at its greatest urgency and pressure in the smallest houses. This is a further justification of the stress laid upon the relation of housing to the death-rates of infants. The infants tend to be most numerous just where the conditions they are born into are worst.

So far, therefore, as our special inquiry is concerned, the problem is not so much the increase or decline of the birth-rate as its unequal distribution in relation to house-room. To that extent the birth-rate has a very material bearing on the whole provision for the physical welfare of mothers and children. Whether the smallness of houses and the promiscuity inevitably incidental to overcrowding is or is not a factor in the promotion of a higher birth-rate is in itself a very important problem in sociology; but whatever the solution of it, the duty to prevent the evil effects of overcrowding

on the lives of mothers and children remains as before. If it should happen that with an increase of house-room the birth-rate of particular communities declines, the provision of the increased house-room is none the less essential to wholesomeness of living. Our problem is nurture, not genesis.

Chart I. shows the birth-rate per thousand of population in Scotland for each of the years from 1855 to 1916. The decline from the year 1876 is, on the whole, continuous. This decline is for the whole of Scotland. It is not realised in every locality. But, whether the birth-rate be declining rapidly or not, the fact remains that the children actually born are not all well provided for in housing, or in food, or in general nurture. Even if the birth-rate falls as much in the next twenty years as it has fallen in the last, the infants born will present problems that nothing short of national organisation can solve. For this inquiry, that is the primary significance of the birth-rate.

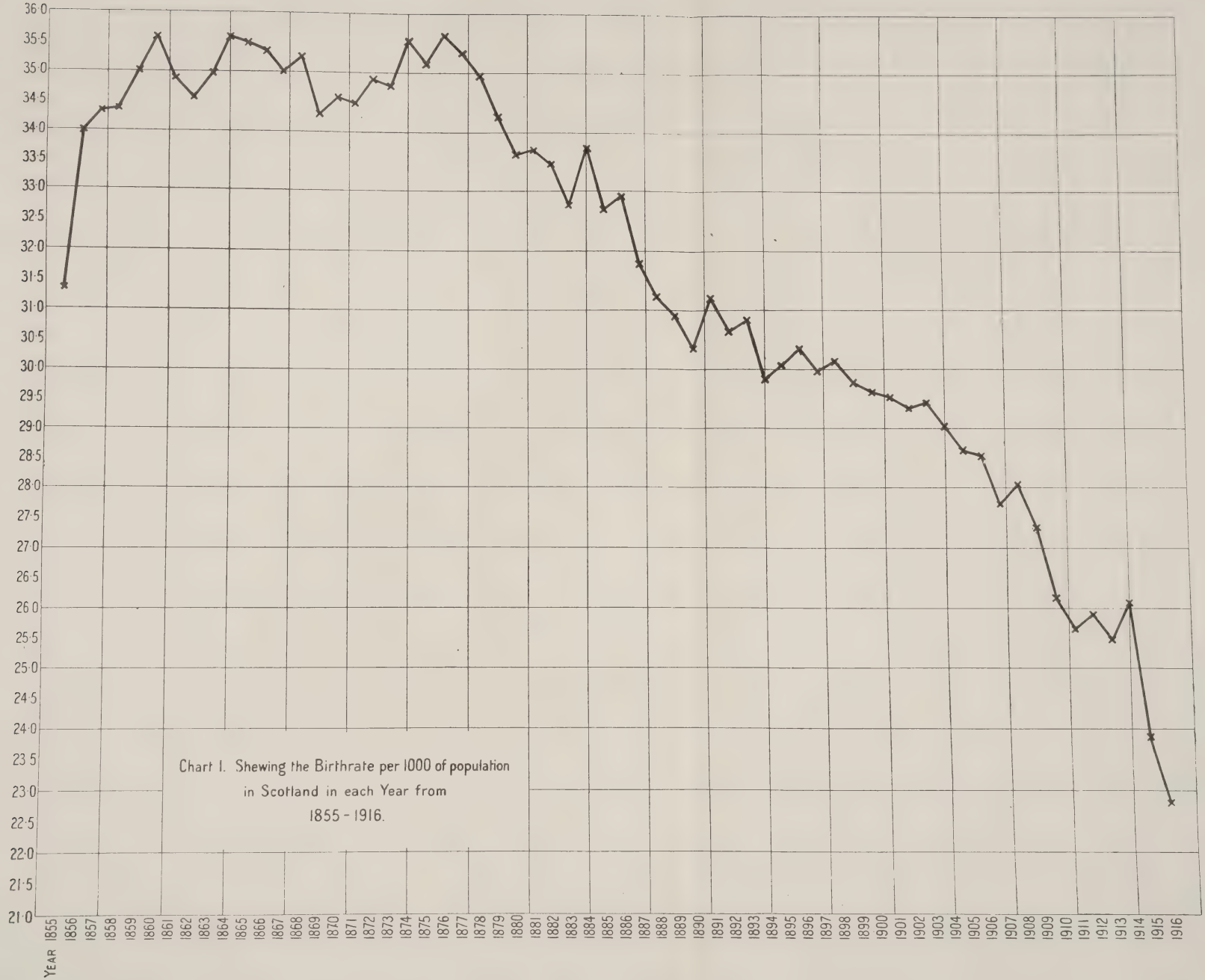


Chart I. Shewing the Birthrate per 1000 of population in Scotland in each Year from 1855 - 1916.

CHAPTER XIV

THE GENERAL CASE FOR THE MEDICAL SUPERVISION OF THE PRE-SCHOOL CHILD

1. *The Pre-School Child's Personal History.*—In Scotland, the child enters a public school when he completes his fifth year. But "the school child, as he appears at school, has already lived through a long and adventurous history. He is born of parents of a given race, of a given community, themselves featured and developed by incalculable complexities of influence. He has inherited certain predispositions of his parents. He may have been affected by the parental diseases. He may have suffered in his life before birth. He has, through many critical moments, struggled into individual existence. He has survived all the serious vicissitudes of his first week, his first month, his first year, his first five years. He has learned to walk, to talk, to assert his place in the mimic community of children. He has acquired individual habits. He has laid the basis of morals. He has come to some sense of individuality in the family. He has at last made the great transition from the home to the school, from his cradle community to the community of strangers, from the soft nurture of family sentiment to the realities of discipline. At every stage in his history, he has acquired something that his whole life will not extirpate. He has been touched with some diseases that make him safe against them for ever. He has found his organs fit enough to carry him thus far. He is now about to enter a much vaster struggle, a more remorseless ordeal, a life full of greater stresses, energies, and dangers."[1]

Fourteen years ago, when these words were written, the many problems here indicated were as much discussed as they are to-day; but they had not yet affected seriously the administrative minds of the country. The racial inheritance of the child, his ante-natal nurture, his personal reaction to the post-natal environment, his experience of the infections, his rate of growth—these and many other problems had already been subjected to investigation with various degrees of thoroughness. But the discussions had little result in practice until the South African War revealed the need for

[1] *Medical Inspection of School Children*, p. 132.

a special study of the physical education of school children, and the Royal Commission on Physical Training (Scotland) was appointed. The Commission reported in 1903. One of their primary recommendations was the medical inspection of school children. But not until five years after their report appeared did the educational authorities of Scotland receive the power they now have to require the medical examination of all school children attending public schools. To-day, however, the question no longer is whether the children shall be medically examined, but how the innumerable defects and ailments revealed by the medical examination shall best be treated. Let it be noted that in pressing for the medical inspection of school children we did not rest the case on the death-rate of school children, the lowest of all the death-rates, but on the defects and ailments discovered by the examination of living children. There were many critics to assure us that the pre-school child was as much in need of inspection as the school child, and that, in beginning with the school child, we were beginning too late. That we were not unaware of this, the words I have quoted sufficiently show; but the work had to begin where the greatest service could be done and where the child could most conveniently and most easily be examined. There was another reason even more practical: at the entrance to school the child passes individually under the partial and direct care of the community as represented by the local education authority and the central education authority. It is true that, long before entrance to school, he is more or less subject to public control; but at school the control is too manifest to be disputed, and the duties now put upon the child are too serious to be required of any but a physical organism fit or fitted to stand the increasing strain. The figures I give below justify the recommendations of the Royal Commission; medical inspection and treatment of school children are now accepted parts of the educational and health machinery of the nation.

2. *The Lesson of the School Clinics.*—But the facts verified in the schools prove also the general case for the medical supervision of the pre-school child. If there had been no direct knowledge of infant mortality and its causes, or of the diseases of children from one to five, the conditions of the children at entrance to school would alone have justified strong statements about the inadequacy of

pre-school supervision. Fortunately, the studies of infant mortality, infant feeding, and child life generally have furnished us with sufficient data to ground the most extensive schemes for prevention and treatment; but the facts of the school inspection are of special value, because they result from a study not of the child's health merely, but also of his immediate social efficiency. This is an important distinction. Up to the school age the child has no responsibility for any duty; after the school age he is never free from responsibility. The transition is of fundamental importance for growth, both physical and mental. The test of fitness, therefore, at school entrance is a test not of health alone, but of the capacity of the growing organism to undergo training. Up to the school age the child's ailments often mean very little to the parent. But at school entrance the parent finds that the record of the pre-school life is an essential element in the life at school.

To prove how well grounded these inferences are, Dr Lewis D. Cruickshank, Medical Officer and Inspector of Physical Education for the Scotch Education Department, has compiled groups of facts showing the physical condition of children at the age of school entrance. Dr Cruickshank has had extended experience in every field of school medical work—as a lecturer to Students in Training, as late Principal of the Dunfermline College of Hygiene, as Inspector of Physical Education, and as Superintendent of Medical Inspection. From his experience, he is able to place a correct value on the facts furnished by the school medical reports. Here he has selected figures from all parts of Scotland. His statement, though not elaborated into great detail, thus forms a valuable critical survey of the conditions at the school-entrance age. As a result of the survey, the educational authorities may well demand that they shall no longer be asked to provide inspection and treatment for diseases and conditions that ought to have been and could have been dealt with effectively in the pre-school period.

STATEMENT REGARDING THE PREVALENCE OF DEFECTS AMONG SCHOOL ENTRANTS. By LEWIS D. CRUICKSHANK, Esq., M.D., D.P.H., M.R.C.P.E., *Medical Officer and Inspector of Physical Education, Scotch Education Department*

Figures are available only in the case of the following :—(1) Burghs—Aberdeen, Edinburgh, Glasgow, Greenock, Perth; (2) Counties—Aberdeen, Ayr, Clackmannan, Fife, Linlithgow, Perth, Stirling, Sutherland, Wigtown.

The defects that have been selected as likely to be most suitable for the purpose of your Report are :—

A. Verminousness—head ; body.
B. Nutrition—defective.
C. Diseases of skin.
D. Defective teeth.
E. Enlarged tonsils and adenoids.
F. Enlarged glands.
G. Diseases of nose.
H. Diseases of eyes.
I. Diseases of ear and defective hearing.
J. Organic heart disease ; diseases of lung.
K. Rickets.
L. Non-pulmonary tuberculosis.

The total number of entrants examined annually is approximately 81,900.

The percentage incidence of defects varies greatly in the different districts, and the following summaries show the state of things in certain burghs and counties and in both combined. It will, perhaps, be most convenient if I set out in detail the number of children examined and the number found defective under the different diseases, etc., and afterwards state general conclusions.

A.—Verminousness

	Number Examined.	Verminousness of Head.	Verminousness of Body.
1. *Burghs*			
Aberdeen	3,090	166	48
Edinburgh	5,002	441	21
Glasgow	14,130	1,449	487
Greenock	1,265	99	30
Perth	558	27	27
Total	24,045	2,182	613
2. *Counties*			
Aberdeen	3,492	278	94
Ayr	1,565	134	12
Clackmannan	556	31	11
Linlithgow	2,035	144	21
Perth	869	59	5
Stirling	3,174	49	..
Sutherland	348	36	1
Wigtown	797	147	92
Total	12,836	878	236

Burghs . . . . 2,182 = 9 per cent. of children examined
613 = 2·5 ,, ,, ,,

Counties . . . . 878 = 6·9 ,, ,, ,,
236 = 1·8 ,, ,, ,,

3. *General Prevalence*

(1) *Nits; Vermin of Head.*—For town and county together the percentage is 8. If we apply this to the elementary school entrants of Scotland as a whole, approximately (819 × 8 = 6552) 6500 children have nits or nit vermin on the head when they begin school.

(2) *Vermin on Body.*—Say 2 per cent. for the school entrants of whole country. This means about (819 × 2 = 1638) 1600 children with vermin on body beginning school each year.

B.—Defective Nutrition

	Number Examined.	Below Normal.	Bad.
1. *Burghs*			
Aberdeen	3,090	351	..
Edinburgh	5,002	698	73
Glasgow	14,130	646	47
Greenock	1,265	53	..
Perth	558	138	43
Total	24,045	1,886	163
2. *Counties*			
Aberdeen	3,492	220	..
Ayr	1,565	337	6
Clackmannan	556	26	5
Fife	4,669	1,213	..
Linlithgow	2,035	150	13
Perth	869	9	2
Stirling	3,174	79	..
Sutherland	348	23	..
Wigtown	797	56	..
Total	17,505	2,113	26

Burghs . . . . Below normal, 1,886
Bad, 163

Total defective nutrition, 2,049
or 8·5 per cent. of children examined.

Counties . . . . Below normal, 2,113
Bad, 26

Total defective nutrition, 2,139 = 2 per cent.

Owing to the varying standards adopted by the several examiners, it might be safer to add both degrees of defect together and give the percentage as " Defective Nutrition " without reference to degree.

3. *General Prevalence*

For burghs and counties combined, the percentage of entrants found defective in nutrition is 10.

Applied to Scottish elementary school entrants, this means that 8190 children begin school suffering from varying degrees of defective nutrition.

C.—Diseases of Skin

	Number Examined.	Number Affected (mostly Impetigo and Ringworm).
1. *Burghs*		
Aberdeen	3,090	25
Edinburgh	5,002	128
Glasgow	14,130	220
Greenock	No return.	No return.
Perth	558	6
Total	22,780	379
2. *Counties*		
Aberdeen	3,492	34
Ayr	1,565	57
Clackmannan	556	6
Fife	4,669	54
Linlithgow	2,035	47
Perth	869	6
Stirling	3,174	54
Wigtown	797	30
Total	17,157	288

Burghs . . 379=1·6 per cent. of children examined.
Counties . 288=1·6 „ „ „

3. *General Prevalence*

1·6 per cent. applied to the whole of the Scottish school entrants would mean that 1310 children begin school while suffering from diseases of the skin.

This figure is almost certainly an under-estimate, as the records of school clinics show that many more children are treated annually for the diseases than are discovered during systematic inspection of school children.

D.—Defective Teeth

	Number Examined.	1–4 Bad.	5 and over Bad.
1. *Burghs*			
Aberdeen	3,090	1,500 (estimate)	1,143
Edinburgh	5,002	2,532	1,929
Glasgow	14,130	8,366	3,097
Greenock	1,265	728	323
Perth	558	219	118
Total	24,045	13,345	6,610
2. *Counties*			
Aberdeen	3,492	991 (1–3)	1,148
Ayr	1,565	1,129	202
Clackmannan	556	284	197
Fife	4,669	1,109	687
Kirkcudbright	529	300	69
Linlithgow	2,035	772	922
Perth	869	441 (1–5)	237 (6+)
Stirling	3,174	1,247	1,116
Sutherland	348	47	40
Wigtown	797	611 (degree not stated)	
Total	18,034	6,931	4,618

Burghs. 1–4 bad (13,345)=55 per cent.
5 or more (6,610)=27 ,,
All decayed teeth, 82 per cent.

Counties. 1–4 bad (6,931)=38 per cent.
5 or more (4,618)=25 ,,
All decayed teeth, 63 per cent.

It would thus appear that young children in burghs suffer more than similar children in the counties from defective teeth.

3. *General Prevalence*

It is probably a conservative estimate to say that 70 per cent. of all entrants suffer from defective teeth, and that at least 25 per cent. of them have teeth in a very defective condition. This would mean for the whole of Scotland that at least 57,000 children begin school life every year with their teeth in a defective condition, and that 20,000 of them have more than five teeth in a state of decay. We have, so far, no means of estimating the amount of suffering and disturbance of nutrition and growth that this gives

rise to, but it must be very considerable. There is no reason why children should ever suffer from toothache, etc., etc.

E.—Enlarged Tonsils and Adenoids

	Number Examined.	Slight Enlargement of Tonsils, and Adenoids probably present.	Marked Enlargement of Tonsils and (or) Adenoids.
1. *Burghs*			
Aberdeen	3,090	235	180
Edinburgh	5,002	936	149
Glasgow	14,130	1,048	547
Greenock	1,265	48	16
Perth	558	56	16
Total	24,045	2,323	908
2. *Counties*			
Aberdeen	3,492	497	390
Ayr	1,565	305	117
Argyll	1,310	172	131
Clackmannan	556	113	69
Fife	4,669	1,554	60
Kirkcudbright	529	74	42
Linlithgow	2,035	186	113
Perth	869	44	63
Stirling	3,174	451	46
Sutherland	348	30	4
Wigtown	797	90	12
Total	19,344	3,516	1,047

Burghs . . . . . 2,323=9·6 per cent.
908=3·7 „

Counties . . . . 3,516=18 per cent.
1,047=5·4 „

3. *General Prevalence*

The figures as regards slight enlargement of the tonsils and the probable presence of adenoids seem to me to vary too much as between town and country to be reliable. The figures as regards the more marked conditions are more nearly equal, and, as a round figure, it might safely be said that approximately 4 per cent. would indicate the prevalence of marked enlargement of the tonsils and (or) adenoids. This figure applied to the whole would mean that about 3276, say over 3000, Scottish children begin school with adenoids or with tonsils enlarged to such a degree as to require surgical treatment. The number of children of this age whose throats are in an unhealthy condition is probably about three times as great. One school

medical inspector expressed the view that the benefit that school children derived from removal of enlarged tonsils and adenoids had alone been sufficient to justify medical inspection. While this is probably overstating the case, there is no doubt that the presence of these growths in young children leads, only too often, to serious physical and educational inefficiency.

F.—Enlarged Glands

There appears to be so great diversity of opinion among medical inspectors as to the significance of enlargement of the neck glands that the figures given below are of doubtful value. Some include in their returns all palpable glands, while others do not. *Moderately enlarged* glands were discovered in 7 per cent. of the burgh children, and in 13 per cent. of country children; *marked enlargement* in 0·3 per cent. of burgh children and 0·3 per cent. of country children. The details are as follows :—

	Number Examined.	Moderately Enlarged.	Markedly Enlarged.
1. *Burghs*			
Edinburgh	5,002	1,047	43
Glasgow	14,130	460	22
Greenock	1,265	20	5
Perth	558	31	0
Total	20,955	1,558	70
2. *Counties*			
Aberdeen	3,492	466	6
Ayr	1,565	35	7
Clackmannan	556	123	3
Fife	4,669	579 (all degrees)	
Kirkcudbright	529	263 „	„
Linlithgow	2,035	38	19
Perth	869	9	10
Wigtown	797	458 (all degrees)	
Total	14,422	1,991	45

Burghs . . . . 1,558=7·0 per cent.
70=0·3 „
(Aberdeen (Burgh) returns Glands as Acutely Enlarged, . 103
Chronically Enlarged 3
Out of 3,090 children examined.)

Counties . . . . 1,991=13·0 per cent.
45= 0·3 „

3. *General Prevalence*

It seems clear from these figures that only a small number of children, $819 \times 0{\cdot}3 = 245{\cdot}7$, or, in round figures, 250, begin school life with marked enlargement of the neck glands. As regards lesser degrees of enlargement, the figures are much more doubtful, but they are probably not less than

	Number Examined.	Moderate Enlargement.
(Burghs	20,955	1,558
Counties	14,422	1,991
Total	35,377	3,549

3549 = 10 per cent.)

10 per cent. in school entrants as a whole. This would represent something like 8190 children among those beginning school.

G.—Diseases of the Nose

The figures given under this heading refer mainly to catarrh, obstruction, and other defects, and are, I think, too indefinite to be used even for purposes of illustration.

H.—Diseases of Eyes

(Defective Vision *not* included)

	Number Examined.	Blepharitis.	Conjunctivitis.	Corneal Disease.	Other Diseases.
		1. *Burghs*			
Aberdeen	3,090	58	25	3	2
Edinburgh	5,002	68	51	11	211
Glasgow	14,130	197	95	35	298
Greenock	1,265	5	5	3	48
Perth	558	7	0	2	9
Total	24,045	335	176	54	568
		2. *Counties*			
Aberdeen	3,492	90	30	10	61
Ayr	1,565	69	15	1	16
Clackmannan	556	16	5	8	15
Dumbarton	2,621	41	14	19	53
Linlithgow	2,035	23	9	4	32
Perth	869	8	0	1	2
Wigtown	797	12	7	2	30
Total	11,935	259	80	45	209

It will perhaps be useful for your purpose to group the simple inflammatory diseases together—namely, blepharitis, conjunctivitis, and corneal diseases. Other diseases are mainly cases of squint.

Burghs.—Blepharitis	335	
Conjunctivitis	176	
Corneal diseases	54	
	565	=2·3 per cent.
Other diseases	568	=2·3 per cent.
Counties.—Blepharitis	259	
Conjunctivitis	80	
Corneal diseases	45	
	384	= 3 per cent.
Other diseases	209	=1·7 per cent.

Taking town and country together, we get the following percentages :—

	Number Examined.	Inflammatory Diseases.	Other.
Burghs	24,045	565	568
Counties	11,935	384	209
Total	35,980	949	777

3. *General Prevalence*

If we apply these figures to the school entrants as a whole, it means that, approximately ($819 \times 2{\cdot}6 = 2129$), 2000 children begin school life with some form of inflammation of the eyes or their appendages, and that something like ($819 \times 2{\cdot}1 = 1719$) 1700 suffer from squint or some other disturbance of their seeing mechanism (apart from simple cases of defective vision).

I.—Ears and Hearing

	Number Examined.	Otorrhœa.	Other Diseases.	Defective Hearing.
1. Burghs				
Aberdeen	3,090	16	4	3
Edinburgh	5,002	66	21	56
Glasgow	14,130	241	22	311
Greenock	1,265	22	2	0
Perth	558	5	2	2
Total	24,045	350	51	372
2. Counties				
Aberdeen	3,492	66	0	20
Ayr	1,565	12	0	35
Clackmannan	556	6	0	3
Fife	4,669	54	23	144
Linlithgow	2,035	9	0	13
Perth	869	5	0	11
Stirling	3,194	63	0	12
Wigtown	797	13	0	22
Total	17,157	228	(23)	260

Burghs.—Otorrhœa . . . . . 350=1·4 per cent.
Other diseases . . . . . 51=0·2 „
Deafness . . . . . 372=1·5 „

Counties.—Otorrhœa . . . . . 228=1·3 per cent.
Other diseases . . . . . Omit.
Deafness . . . . . 260=1·5 „

3. *General Prevalence*

It would appear from these figures that otorrhœa and defective hearing are about equally prevalent in town and country. If we apply the figure (1·3 per cent.) for otorrhœa to the whole of the school entrants, then (819×1·3=1064) about 1000 children begin school with running ears, and (819×1·5=1228) 1200 have their hearing so defective as to interfere with their education.

J.—Diseases of Heart and Lungs

	Number Examined.	Organic Heart Disease.	Chronic Bronchitis.	Tuberculosis.	Other Diseases.
		1. *Burghs*			
Aberdeen	3,090	4	76	0	55
Edinburgh	5,002	6	160	4	68
Glasgow	14,130	39	544	8	9
Greenock	1,265	14	17	1	1
Total	23,487	63	797	13	133
		2. *Counties*			
Aberdeen	3,192	26	61	3	3
Ayr	1,565	3	33	1	1
Clackmannan	556	3	20	0	4
Fife	4,669	110	180	10	11
Linlithgow	2,035	2	30	0	0
Perth	869	0	11	0	4
Stirling	3,174	43	100	0	11
Wigtown	797	7	21	1	2
Total	17,157	194	456	(15)	36

Burghs.—Heart disease . . . . 63=0·2 per cent.
Bronchitis . . . . 797=3·3 ,,
Lung tuberculosis . . . . 13=0·05 ,,
Other lung diseases . . . 133=0·5 ,,

Counties.—Heart disease . . . . 194=1·1 per cent.
Bronchitis . . . . . 456=2·6 ,,
Lung tuberculosis . . . . 15=0·08 ,,
Other diseases . . . . 36=0·2 ,,

3. *General Prevalence*

(a) *Heart Disease.*—The figures both in town and in country vary so much that it is difficult to arrive at a reasonably correct figure as to the incidence of this disease. The percentage in the counties is higher probably on account of the large numbers returned for Fife.

(b) *Lung Diseases.*—The great prevalence of chronic bronchitis is interesting. For town and country together, the percentage incidence may be taken as 3, which, if applied to Scottish school entrants as a whole, would mean that ($819 \times 3 = 2457$) about 2500 children have bronchitis when they begin school.

(c) *Tubercle of Lung.*—I should not venture to suggest to what extent this disease prevails among entrants, as I attach very little value to the figures returned from the different districts.

(d) *Other Lung Diseases.*—The general prevalence in town and country is about 0·4 per cent., which means that in Scotland as a whole (819 × ·4 = 327·6) over 300 children begin school with some affection of the lungs other than bronchitis.

K.—Rickets

	Number Examined.	Rickets (all degrees).
1. *Burghs*		
Aberdeen	3,090	617
Edinburgh	5,002	110
Glasgow	14,130	1,540
Greenock	1,265	69
Perth	558	8
Total	24,045	2,343
2. *Counties*		
Ayr	1,565	65
Clackmannan	556	7
Fife	4,669	23
Linlithgow	2,035	3
Perth	869	5
Stirling	3,174	33
Wigtown	797	15
Total	13,665	151

Burghs.—Rickets . . 2343 = 9·7 per cent.
Counties.—Rickets . . 151 = ·01 per cent.

3. *General Prevalence*

There is a marked difference between the prevalence of rickets in town and country. The medical officer for Sutherland stated in a report that he had met with only two cases during his work of inspection, and both were boarded-out children from Glasgow. In the burghs generally, it would probably be safe to say that the after-effects of rickets are noticeable in about 9 per cent. of the children that enter school in each year.

L.—Non-Pulmonary Tuberculosis

	Number Examined.	Number Affected. (Glands, Osseous, etc.)
1. *Burghs*		
Aberdeen	3,090	5
Edinburgh	5,002	107
Glasgow	14,130	7
Greenock	1,265	4
Perth	558	3
Total	24,045	126
2. *Counties*		
Aberdeen	3,492	12
Ayr	1,565	2
Clackmannan	556	4
Fife	4,669	10
Linlithgow	2,035	5
Perth	869	3
Stirling	3,174	13
Wigtown	797	4
Total	17,157	53

Burghs . . . . 126=0·5 per cent.
Counties . . . . 53=0·3 per cent.

Town and county combined :—

	Number Examined.	Number Affected.
Burghs	24,045	126
Counties	17,157	55
Total	41,202	181

181=0·4 per cent.

3. *General Prevalence*

There seems to be much greater certainty as to the prevalence of the non-pulmonary forms of tuberculosis. It would seem as if a percentage incidence of 0·4 might safely be applied to Scottish school entrants as a whole,

in which case ($819 \times \cdot 4 = 327 \cdot 6$) about 330 children begin attendance at school with one or other of the non-pulmonary forms of tuberculous disease.

General Summary of Percentages of Entrants suffering from Different Defects

	Percentage.
1. Verminousness of head	8
2. ,, ,, body	2
3. Defective nutrition	10
4. Diseases of skin	1·6
5. Enlarged tonsils and adenoids (marked)	4
6. Marked enlargement of neck glands	0·3
7. Diseases of eyes	4·7
8. Diseases of ear and defective hearing	3
9. Diseases of lungs	3·5
10. Rickets, say	5
11. Non-pulmonary tuberculosis	0·4
Total	42·5

It would appear from the few selected reports that at least 42·5 per cent. of the children entering school suffer from defects and diseases which are largely preventable. If to these figures we add the percentage who suffer from defective teeth (70 per cent.), the total exceeds 100, showing the actual number of defects discovered considerably exceeds the number of children examined. This is a common occurrence in the experience of medical inspectors, and shows that many of the children suffer from more than one defect, the commonest combination being defective teeth and some other defect.

These figures might be put into many different combinations to bring out particular points, but I refrain from any other combinations than those given above. I have confined the report to bald statements; but I hope it will be sufficient for the purpose in hand.

3. *Discussion of School Results.*—From almost any of these groups of figures it is possible to select points relevant to the pre-school life of the child. All the conditions described are "chronic." None of them begins on the day when the child presents himself at school. If a child comes to school with vermin of head or body, he has already been neglected at home for months or years. Probably he has suffered from irritation or diseases of the skin; possibly also from want of sleep. It is disappointing to find that, in an average year, some 6500 children must thus have, before the end of their fifth year, suffered for prolonged periods from vermin of the head; and 1600 children from vermin of the body. But verminousness is

usually associated with general uncleanliness. The cases may vary from something trifling to something superlatively loathsome; but, as a rule, the presence of vermin means previous neglect. Some of the School Boards, notably the School Board of Aberdeen, some years ago established drastic methods of dealing with verminous homes, and probably the pre-school children have had some of the benefit.

Defective Nutrition.—The figures for defective nutrition are more serious. At the worst, vermin belong to the immediate environment and are removable; but defective nutrition at school entrance means months or years of improper feeding, or insufficient sleep, or insufficient sunlight, or insufficient air, or over-irritation of the nervous system, or imperfect recovery from infectious disease, or some one of the many influences that may affect the highly susceptible pre-school child. In the burghs named, the percentage runs up to more than 8, and in the counties to 2; but these figures by themselves do not convey the seriousness of the fact. It may be said that, in the production of defective nutrition, all the evil influences named in this Report have a share—defective or improper food, bad housing, specific and general disease. But the mere fact that over 8000 school entrants should be found defective in nutrition in any one year proves the need for the increased care of children under five. The standards, it is true, vary; but from my scrutiny of school children in different localities of Scotland, I am satisfied that the figures selected by Dr Cruickshank are likely to be under, rather than over, the fact. Defective nutrition, it is right to remember, does not necessarily mean want of food alone. In a given case it may mean this; but in a vast number of cases it means the want of systematic nurture. In fact, the pre-school child is apt to be left to run alone long before he knows how. If his personal energies do not secure to him adequate sustenance, his body adapts itself to the sustenance available. This is probably the real interpretation of the difference in the height and weight between the ill-tended and the well-tended children. The point is further illustrated in the chapter on The Housing of Mother and Child.

Diseases of Skin.—The numbers suffering from disease of the skin are small, being about 1300 entrants in any single year. But Dr Cruickshank considers that this is "almost certainly an under-

estimate." But even if the numbers were doubled, they would still be relatively small and would scarcely serve to ground a charge of serious neglect. None the less, most of the skin diseases found at entrance may be taken as an indicator of more or less serious neglect. It is certain that, in the two chief cities, the number of skin diseases in school children has been sufficient to justify the installation of special skin clinics, with X-ray apparatus. The waiting-list at the Edinburgh Skin School for ringworm and favus is still considerable. It is justifiable to infer that those diseases are also pretty widely spread among the pre-school children.[1]

Defective Teeth.—How far defective teeth are to be taken as a proof of neglect, or of improper feeding, or inadequate general nurture, it is as yet impossible to say. But the numbers suffering from defective teeth are enormous. Out of 81,900, it is estimated that 57,000 children began school with their teeth in a very defective condition, and that 20,000 of them have more than five teeth in a state of decay. The problem of curative treatment is so gigantic that practically no community has yet faced it. But there is certainly room for research into the causes of bad teeth. The common explanations offered—for example, excess of sugar, deficient mastication, and the like—seem to me inadequate. These explanations take no account of one primary fact—namely, that the teeth, like the hair and the nails, are complicated structures, partly epidermal in origin, whose nutrition depends on the nervous system, which, in turn, depends upon the general condition of the body.[2] Frequently teeth suffer

[1] This inference is confirmed by some notes sent me by Dr Norman Walker, Physician to the Department for Diseases of the Skin, Royal Infirmary, Edinburgh. In the year 1916, of 1380 out-patients treated, 211, that is, about 15 per cent., were children under school age:—

Alopecia areata, 2; dermatitis, 14; erythema multiforme, 1; favus, 1; furunculosis, 1; herpes zoster, 1; impetigo, 58; lupus vulgaris, 3; nævus, 6; pediculosis, 4; psoriasis, 3; scabies, 28; seborrhœa, 23; syphilis, 2; tinea (ringworm), 47; tuberculosis cutis, 3; urticaria, 11; verrucæ (warts), 2; vaccinia, 1—total, 211.

Dr Walker writes:—"The most important figure is, it seems to me, that of ringworm, which is so generally looked on as pre-eminently a school disease, and it seems to indicate the wisdom of sending the Ringworm School nurse to the homes to examine the other children."

[2] *Teeth, hair, and nails.*—Of the "nature of teeth," Professor Arthur Keith writes:—"A tooth must be regarded as an ossified dermal papilla which has received a coating of enamel from the epidermis covering it. In nature they correspond to the placoid scales of the shark's skin. The placoid scales and teeth of the shark are similar in structure, the one series becoming continuous with the other at the margin of the mouth. The dental papilla and enamel bud represent an invaginated or depressed part of dermis and epidermis." (*Human Embryology and Morphology*, p. 67.)

"The down-growing nature of the epiblastic (epidermal) cells . . . is of the greatest clinical importance. The enamel organs, we have seen, arose by a species of down-growth of the epidermis; so do hairs, sweat glands, and sebaceous follicles. . . . Morphologically a hair may be regarded as a dermal papilla, which has become sunk in the subcutaneous tissue, and capped by a process of epidermis. . . . The nails are made up of the basal, stratum mucosum, and stratum lucidum layers of the skin." (*Ibid.*, pp. 71, 72, 73.)

from malnutrition even before they appear in the gums. Bad teeth are not confined to any class of the community; they are found among the well-nourished and among the ill-nourished. That dental decay is largely preventable there is no reason to doubt. That it is accelerated by various foods, such as sugar, is probably true; but there is much room for further inquiry. There may be other factors in the production of dental decay—for example, the destruction of food ferments by over-cooking; the chronic congestion due to eating of solids and drinking of liquids hot; the subtle and unknown disturbances due to various forms of microbic poisoning; the unascertained effects of tuberculosis, measles, and other infections on the internal secretions; the effects of insufficient ripe and raw fruit and of clean and raw vegetables; the scurvy-producing effect of certain stale foods; and a number of other similar factors. Again, there is the question how far bad teeth are associated with want of breast-feeding from birth. The teeth, so delicate and delicately related to the nervous system, cannot be regarded merely as solid bodies planted in the jaw. They are to be studied as growths related in their nature to the skin, hair, and nails. I cannot speak from an extended knowledge of dental literature; but, in view of the many inconclusive discussions I have listened to, I am satisfied that there is still room for special research in this field. Until our science of the facts is further advanced, we cannot apportion the blame for the multitudes of bad teeth. But, meanwhile, whatever the fundamental causes of dental decay may be, the measures now common in all well-conducted schools should be pushed back as far as practicable into the pre-school life. The result, I am satisfied, would be an immense improvement in the teeth at the age of school entrance.

Adenoids and Enlarged Tonsils.—Dr Cruickshank estimates that 3000 Scottish children begin school with adenoids, or with tonsils enlarged to such a degree as to require surgical treatment. For children whose tonsils or throats are slightly affected, this number might safely be doubled or trebled. But the points relevant to our present argument is that the growth of adenoids and the enlargement of tonsils are essentially chronic processes, whatever be their causation. The evil results are slow but serious. The earlier the treatment, the less the handicap. The discovery of the diseased conditions should not have to wait for the school inspection. In this

group of diseases the pre-school child certainly suffers from the want of adequate facilities for inspection, diagnosis, and treatment.

Enlarged Glands.—It is estimated that over 8000 Scottish children begin school with slight enlargement of the neck glands, but only a very small number, about 250, with marked enlargement. The glands of the neck readily react to any morbid process, and thus their enlargement is always a signal of the need for further examination. In the rapid metabolism of the pre-school child, probably those glands may increase and diminish many times before the school age; but it is certain that the enlargement is frequently due to tuberculosis, and is, therefore, always a reason for suspecting that infection. Like the enlargement of tonsils, the enlargement of glands is usually a chronic process. It may be due to many causes; it may have begun months or years before the school age; but through the want of system hitherto prevailing, the child comes under inspection or treatment only by accident. In the towns, the facilities are so much greater that much larger numbers secure treatment; but in the rural areas glands are as little thought of as warts on the hands. It is certain that the systematic investigation of glands in the pre-school ages would reduce tuberculosis at least by an appreciable percentage.

Eyes and Eyelids.—The school figures also show a considerable number of chronic diseases of eyes and eyelids. The refractive defects of vision are not of serious importance in pre-school children; they need treatment only when very severe. It is estimated that 2000 Scottish children begin school life with some form of inflammation of the eyes and eyelids. This is probably an underestimate. But chronic inflammation of the eyelids or of the cornea is definite evidence either of deficient care or of deficient facilities for treatment.

Ears and Hearing.—Diseases or defects of the ears or hearing are usually more serious than defects of the eye. It is estimated that 1000 Scottish children begin school with running ears, and some 1200 with defective hearing. These conditions are usually due to acute specific illnesses, like scarlet fever or measles, where the complications have been severe or convalescence imperfect. But the running ears are the serious cases. There are probably thousands that have passed through the running stage and are now chronically

affected in some other way. In no department is early treatment more necessary, but frequently, the treatment provided, even in old and declared conditions, is too unsystematic to be of real value. Morbid conditions of the ear and throat must be considered along with the whole problem of the preventable infections—scarlet fever, measles, diphtheria and other throat infections. The percentages found at school entrance are only a very rough index of the immense damage done, directly and indirectly. Diseases of the ears and defects of hearing at school entrance point to the imperative need for better facilities for inspection, diagnosis, and treatment in the pre-school ages.

Heart and Lungs.—Except in the case of bronchitis, diseases of the heart and lungs do not show high percentages at school entrance. But the prevalence of chronic bronchitis is strikingly high. That bronchitis should be chronic at the age of five is a proof that the child is neglected before five. It is a fact humiliating to the whole system of medical service, including institutions and nursing, that, at the age of five, approximately 2500 children should have to begin school under the handicap of chronic bronchitis. Possibly, a part of the supposed bronchitis is really tubercular; but if it be, the humiliation is only intensified. Dr Cruickshank attaches little value to the figures returned for tuberculosis. In this I agree with him. In spite of the exceptional attention focussed on this disease in the last generation, we are still very far from the mastery of it either in theory or in practice. This is further dealt with in a special section.

Rickets.—Rickets is practically a town disease. The figures justify this inference. The disease is further discussed in "The Housing of Mother and Child."

Tuberculosis.—Of tuberculosis there is this to say: of the hip-joint cases, the spine cases, the serious bone cases, these figures tell us little or nothing. Those cases do not present themselves at school; they are, as a rule, among the cripples and chronic invalids. And their name relatively is legion. Only a fraction of them can be treated in the institutions at present available. The pre-school tuberculosis cases are among the most serious problems of the country. Take only the deaths and you will have no doubt. In the year 1915 some 2238 children under fifteen years died of tuberculosis, and of these 1410 were children of less than five.

4. *Supplementary Illustrations from Dunfermline.*—The general results summarised by Dr Cruickshank are confirmed by some special returns from Dunfermline. These have been prepared by Dr Alister Mackenzie, Principal of the College of Hygiene. For convenience of practice, the cases found defective are classified as "excellent" and "1," "2," and "3" under each head of the medical schedule. In general, a "1" defect is a very small affair, except in cases like defective hearing. A "2" defect is one requiring supervision by the parent and the school so as to arrest further defects and promote improvement. A "3" defect is one sufficiently bad to demand ordinary medical and surgical treatment. "I find it a little difficult to explain the distinction, but it is roughly that a '3' defect requires a bottle or a knife, while a '2' defect requires general hygienic measures only." Those suffering from more important defects are classed as "specials." Of these specials, long lists are prepared and sent for the information of the schoolmasters and for their direction in supervising the children. A few instances will bring out both the fairness and the practicality of the directions to the teacher. Thus, one female child of five had a "2 bronchitis and should be treated leniently in mental and physical work, and should not be exposed to cold and damp." Another had "2 pulmonary tuberculosis and defective circulation"; the direction was—"physically subnormal, should be treated leniently in mental and physical work." Similar directions were given in many other cases, such as marked degrees of enlarged cervical glands, defective nutrition, defective respiration, and the like. In cases of marked spinal curvature (kyphosis, scoliosis, and lordosis) the teacher's attention was drawn to the curvature and to the desk posture. In another case, a "2 adenoids," "2 mental," "3 otorrhœa," and "2 hearing" were accompanied by the special remarks—"adenoids would explain dullness, if present; subnormal child mentally; otorrhœa interferes with health and hearing; hearing actually defective." The number of enlarged glands and enlarged tonsils is very striking. Many of the children in this long list were over the age of five, but several were below.

Dr Mackenzie, however, has furnished me with a classification of 267 children, aged 4, 5, 6, and 7, and entering school for the first time; these were medically examined between September and December 1916. More than 50 per cent. were classified as having

such well-marked defects that they required special care from the school medical staff.

	Age.	Number of Children Examined.	Number who became "Specials."
Boys—	4	15	4
	5	79	49
	6	39	24
	7	12	4
	Total . .	145	81 = 56·8%
Girls—	4	15	6
	5	62	34
	6	33	20
	7	12	6
	Total . .	122	66 = 54·1%

SOME OF THE CASES.

17 of them had inflamed eyes.
19 had defective hearing, including 4 children with running ears. The others were cases of wax and temporary catarrh of nose and throat.
158 had objectionable nasal discharges or obstruction of the nose.
17 had speech defects—stammering and lisping.
1 had infantile paralysis.
10 had skin diseases.
37 were poorly nourished.
56 had marked enlargement of the tonsils, including 4 cases requiring operation.
48 had marked enlargement of cervical or submaxillary glands.
4 had bronchitis.
4 had weak hearts.

371 ailments in 267 children.

The following analysis of the condition of the teeth of these entrants is striking :—

1–4 decayed.	4–8 decayed.	More than 8 decayed.
76	72	87

In other words, 235 children with bad teeth in a group of 267. There were 32 sound dentures.

VACCINATION.

In 122 children out of the 267 there was no trace at all of vaccination. In 79 other children the scars were so faint as to be of doubtful value.

5. *Direct Evidence from Dunfermline Child Clinic.*—The school records furnish only indirect, though conclusive, evidence of pre-school defects. But the indirect is easily supplemented by direct evidence. Thus from August 1915 to July 1916 the Dunfermline General Clinic was visited by 177 children under five years of age.

The attendances totalled 1719, an average of almost ten visits per case. The ages ranged from eight months to four years. Among 9 children suffering from running ears (otorrhœa), 3 were two years old, 2 were three years, 2 were three years and a half, and 2 were four years old. The 9 cases required 123 attendances. This is a small but telling illustration, first, of the early occurrence of those infective conditions of the ear, and, second, of the difficulty of completely curing them. Among 17 children suffering from eye diseases, 1 was eight months old, 1 was one and a half years, 3 were two years, 5 were three years, the remainder were four years. The other diseases show similar distributions of age. In numbers, the skin cases predominate, and among the skin diseases impetigo is an easy first. It needs little scrutiny to discover that the children under five suffer from much the same diseases as the children at school entrance.

CHILDREN UNDER FIVE YEARS ATTENDING DUNFERMLINE GENERAL CLINIC FROM AUGUST 1915 TO JULY 1916.

Disease.	Number of Children.	Total Attendances.
Ear—		
Otorrhœa	9	123
Eye—		
Blepharitis	5	32
Styes	1	1
Acute conjunctivitis	4	52
Phlyctenular conjunctivitis	2	10
Ulceration—corneal	4	150
Wound	1	9
Skin—		
Ringworm—head	7	402
Favus—head	1	19
Ringworm—body	1	1
Impetigo	52	430
Scabies	3	17
Mollus—contagious	1	5
Warts	4	30
Eczema	6	69
Herpes	1	1
General—		
Burns	5	26
Septic sores	47	254
Bruises	5	16
Wounds	8	37
Toothache	1	1
Miscellaneous	9	34
Total	177	1719

In none of these cases was the disease serious enough to require institutional treatment; but it is probable that a short period of general and special treatment in an institution, not necessarily an ordinary hospital, would, in some cases, be an ultimate economy. This is a separate question. Our present point is that the pre-school children, whenever they are examined, show, as the school children do, a constant crop of defects and ailments varying from something very trifling to something that may impair their efficiency for life. The figures from Dunfermline are given simply because they are a carefully classified group, not because they stand alone. Every out-patient department of a hospital for sick children or other hospital where children are treated, every dispensary in any of our large cities, could furnish multitudes of similar facts. Perhaps the main difference between the little group of figures here quoted and the much larger masses that could readily be collected is this: the quoted figures are the product of a clinic established primarily to ascertain the fitness of children to begin school; the figures of the ordinary out-patient department are the product of institutions exclusively medical in their interest and outlook. But both types of institution tell the same story.

6. *Direct Evidence from the Sick Children's Hospitals.*—In all the sick children's hospitals a considerable proportion of the children admitted are under five years of age. Published returns do not always include specifications of age, but some of them do. Thus, the Dundee Royal Infirmary Report for 1915 shows that of about 4000 cases treated in the medical and surgical wards, 433, that is over 10 per cent., were children under five. The 1914 Report of the Royal Edinburgh Hospital for Sick Children shows that of 2083 children treated, 1339 were children under five. The 1915 Report of the Royal Hospital for Sick Children, Glasgow, shows that of 2091 children treated, 1668 were children under the school age. Of these, 353 were between two and four years, 388 between one and two years, 249 between six and twelve months, 286 between three and six months, and 144 were under three months. The 1915 Report of the Royal Aberdeen Hospital for Sick Children shows that 668 children were treated; but the medical report does not classify according to age. It is, however, known that a large proportion of the children were under five years of age.

7. *Direct Evidence from Out-Patient Departments and Dispensaries.*—The hospital out-patient departments deal with cases that are serious, but not serious enough to need institutional treatment. At the Out-Patient Department of the Royal Edinburgh Hospital for Sick Children there were treated in 1914 a total of 4340 new medical cases. Of these, 3092 were children under five. Of children under five, the great majority were under three years of age. The total of new surgical cases was 2742. Of these, 1812 were children under five. Including "repeats," the total of medical and surgical attendances was 24,083. The new cases include a large number of cases from beyond Edinburgh. The figures, therefore, cannot be taken as a real index of the needs of a known population; but they are enough to prove that the population of pre-school age produces a considerable group of serious diseases.

The 1915 Report of the Royal Hospital for Sick Children, Glasgow, with its associated dispensary, furnishes similar figures.

From some of the dispensaries visited figures of the same order were obtained; but at others of them materials in the registers were not classified into an easily available form. But it may be accepted as true that, at practically all the out-patient departments and dispensaries of the large cities, a considerable proportion of the patients treated are under the school age. The samples examined indicate that those out-patient departments and dispensaries everywhere attract the cases that are serious enough to excite the concern of the parents. The school clinics, on the other hand, or clinics associated with them or arising out of them, deal with a much larger proportion of cases of a less serious order.

8. *Direct Evidence from Notification of Infectious Diseases.*—In Scotland, during the year 1915, 59,280 cases of infectious diseases were notified to the Medical Officers of Health. Of these, 13,484 were cases of children under five. The diseases notified as occurring among young children included enteric fever (typhoid), 56; typhus fever, 1; smallpox, 2; chicken-pox, 354; scarlet fever, 6570; diphtheria and membranous croup, 2654; erysipelas, 239; cerebro-spinal meningitis, 154; measles (notifiable only in one or two districts), 717; ophthalmia neonatorum (notifiable only in some districts), 615; infantile paralysis, 8; trachoma, 5; pulmonary tuberculosis, 302; non-pulmonary tuberculosis, 1799; other in-

fections, 8—total, 13,484. Thus, of all the cases notified, over 24 per cent. were children under five—that is, children of the pre-school ages. The diseases notifiable do not include whooping-cough, or pneumonia in any of its forms, or diarrhoea in any of its forms ; in one or two districts the notifications include measles, but the percentage notified is no guide whatever to the number of cases occurring. The infections as causes of death will be discussed later ; here they are adduced merely as a further proof of the need for the medical supervision of pre-school children. It may be added that, for the year 1915, children of five to fifteen (the school age) yielded 24,920 notifications of infection, which, for each period of five years, is relatively less than the numbers for the pre-school children.

9. *Importance of so-called Minor Diseases.*—It is now possible by putting these various types of figures together to frame another conclusion. The school figures, it is easily seen, include a large number of diseases that never reach the hospitals or even the dispensaries. From the ordinary medical standpoint they would be regarded as in the strict sense " minor." By this is meant, no doubt, that they are not a serious or immediate danger to the life of the patient. But, in the light of the larger perspective of social efficiency, those ailments are in no sense " minor." On the contrary, in their accumulated total they constitute a handicap so serious as often to disqualify the patient for social service of any kind. Unfortunately, the tendency of the medical training hitherto in the ascendant at all the medical schools in this country is to set aside as of little consequence anything that does not need immediate medical treatment as an acute illness. The profession now, under pressure of the rising demand for prevention, is gradually passing out of the pathological phase and taking, not perhaps without a grumble, to the physiological phase. It is not so much as it used to be, " What shall I prescribe for a child that has really nothing wrong with him ? " —as " How shall I prevent this child from requiring serious treatment later on ? " From the parent's side the question is no longer, " Is the child sick enough to require the doctor ? "—but, " Is the child well enough to do without the doctor ? "

Doubtless, it is possible to overdo the demand for medical attention, and the demand is frequently overdone in the better-off classes. But apart from the allegations about " insured persons,"

allegations that I have no means of verifying, I have never known any class of the people seek for medical advice when they had no ground for it; but, as the school facts drive home without the possibility of answer, I have frequently found scores of people that should have called a doctor, but knew nothing of the ailment of the child, and would not have thought the ailment worth a doctor's attention even if they had known of it. And many doctors are just as unwilling to be troubled with the trivialities that compel them to waste the time that, correctly enough from their immediate standpoint, should be given to more serious cases. Not long ago an old general practitioner, in friendly criticism of a children's specialist, asked—"How can *he* know about children? He never sees a healthy child." There is point in the criticism.

These are commonplaces. But the social demands of the time now lift these commonplaces on to a higher plane. The facts I have given from the school inspections prove that there are literally thousands of ailments or defects that obstruct the mental and physical functions of the child and yet never come within the ambit of a hospital's activities. But, apart from this, the number of cases that do come within its ambit are a very small fraction of the cases that need hospital attention. The reason lies on the surface: the hospitals are mostly, if not entirely, supported by voluntary funds; the medical and surgical service, for reasons incident to the peculiar views of medicine in this country, is given free. The result is that the directors cannot afford the funds and the doctors cannot afford the time.

With the new powers now available these difficulties should steadily grow less. Hospital treatment will certainly increase. The general demand for treatment of some sort will also increase. One of the chief effects of the attention to health rather than to disease will be that the standard of healthiness will rise and the amount of minor disease coming for private and public treatment will increase.

What the school clinics show, the child clinics will also show—that, the moment adequate provision for treatment is made, the cases come forward in their scores. This is the criticism the facts pass on the easy theory of the present hospital service of this country.

As we push back the investigation nearer and nearer to the birth of the child, it becomes more and more obvious that there is hardly

an hour of his life that may not be affected with illness of some sort, great or trivial. This is not to say that the average child spends his life in illness with little intervals of good health. But it means that among the multitudes of children there are always a few that do not stand the life allotted to them with the same vigour, or show towards their environment the same power of healthy reaction as others; that some go under for a time, only to emerge weaker, or perhaps stronger; that some go under and emerge permanently weaker and perhaps disabled; and that some go under altogether. But all are liable to suffer, and, at one period or another of their short lives, almost every one of them does suffer.

That is why the history of the child at school entrance is essential, if we are to guide him safely through the rest of his life. It is necessary to know what he has suffered, in order that we may gauge his power of resistance to future illnesses. It is necessary to know his experience of the infections, in order to be sure whether he is still in danger of them or reasonably safe against them. It is necessary to know the results of his disabling illnesses, in order to adjust the treatment at school to his special condition. All through this testing of fitness we assume that, whatever be his personal inheritance as an organism, the child, as he goes through his first five years, is the subject of a thousand cruel tricks of the environment, and that he suffers most when the environment is ill-adapted to his growth, to the instability of his physical structure, and to the speed of his metabolism.

Addendum—Dunfermline College of Hygiene and Physical Training and School Clinics

By the kindness of the Carnegie Dunfermline Trust, I am able to reproduce two plans, one showing the ground floor of the College of Hygiene; the other, the first floor. The foundation stone of the new College was laid by Mr Carnegie on 24th September 1912. The following paragraphs are taken from the description prepared for the occasion:—

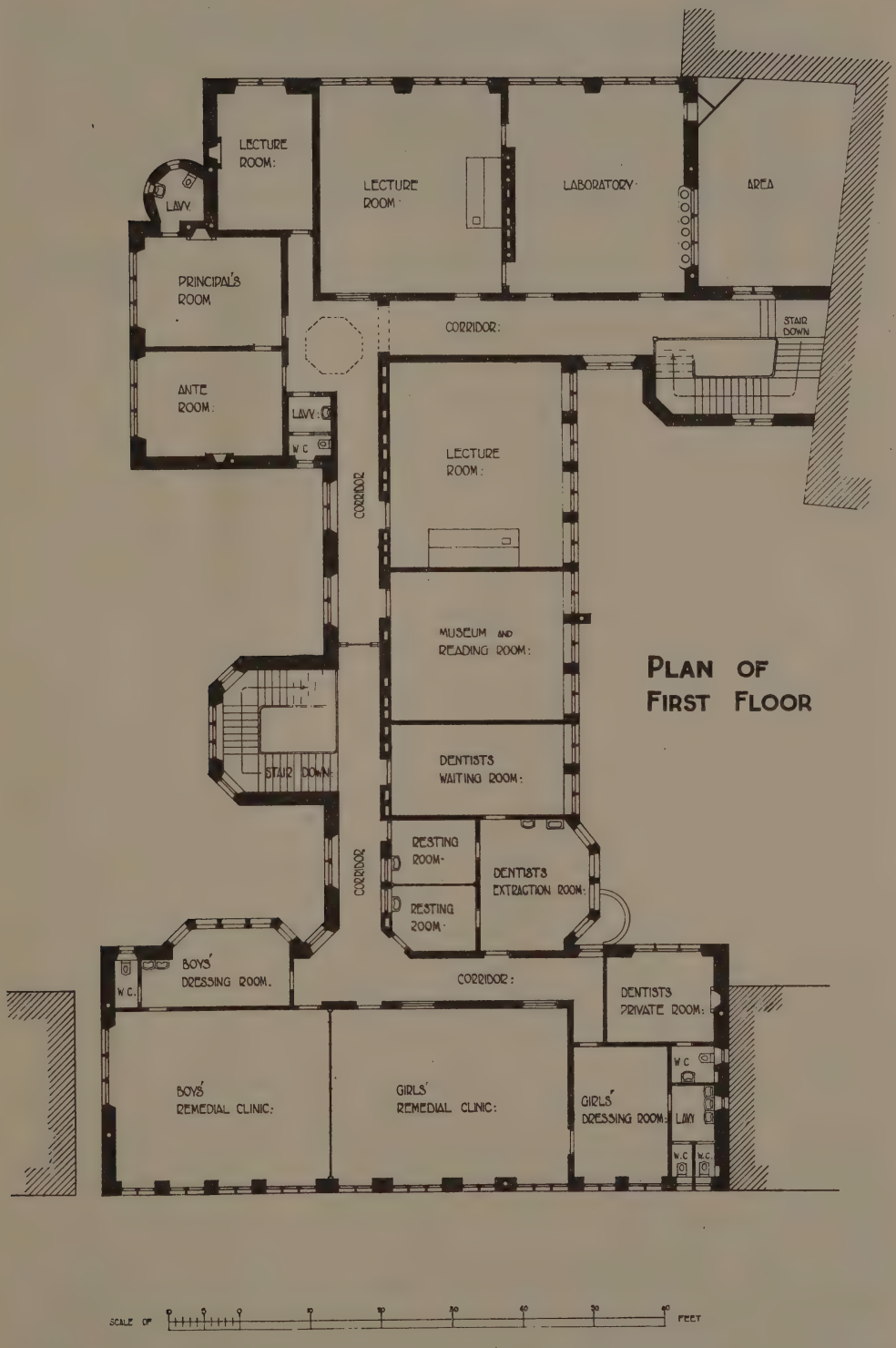
"The functions which the new College and School Clinics are intended to serve are varied and interesting.

"In this building, the various branches of work in connection with the College and Medical Departments will be centralised. By this means, organisation and administration will become more efficient.

"The work of Physical Education will be brought into living relationship with an organised system of School Hygiene. This unification of two mutually dependent spheres of work will result in advantage to both. Physical training as an educational subject will receive an impetus in its development and scientific application which will react beneficially upon education as a whole.

"The building will become a centre for the encouragement of scientific investigation into, and it is hoped a leading school in the dissemination of information on, the hygienics of education. The officials and staff will be in constant and intimate touch with the schools of the country, and will thus be in a position to direct the work of the institution along thoroughly practical lines.

Dunfermline College of Hygiene and Child Clinics: Ground Floor.



Dunfermline College of Hygiene and Child Clinics: First Floor.

"In addition to these more or less general uses, the new building will have certain important local functions to fulfil. Excellent work is already being done in the School Clinics, and it is hoped, when facilities are available, to extend their benefactions to children under school age. The medical attention of children from infancy to five years of age is probably more important than is the case during school life. This and other aspects of health work will receive due attention.

"In general, it may be said that in addition to seeking to fulfil a number of specific purposes bearing on the hygienics of education; the new College and School Clinics are intended to become the centre of a living force in Dunfermline, striving to diffuse in every way information on health matters, and to educate its people in all the elements of a healthy and happy life."

The plans, as reproduced, are self-explanatory.

I have also to thank the Carnegie Dunfermline Trust for a series of photographs of the school clinics, infant consultation centres, and child clinic for remedial exercises and massage. (See Illustrations, pp. viii to xii.)

CHAPTER XV

DEATHS AND DEATH-RATES OF PRE-SCHOOL CHILDREN

1. *The Indicative Value of the Death-Rates.*—A little time ago an eminent statistician said to me: "You men are keeping back the cause of infant welfare by all your congresses and conferences and papers about infant mortality. You are laying too much stress on the infantile death-rate as an absolute test of good or bad health administration. It is not an absolute test at all." He laid stress rather on the conditions of feeding, of housing, of general nurture. He would not, of course, discard the use of the death-rate; what he deprecates is the too abstract use of it. In this inquiry, we have more than once encountered the argument that, as the infantile death-rate of a district was below the average for Scotland, there was no need for any scheme of maternal or infant welfare. In one case a medical officer, responsible for a population of about 160,000, maintained that, as the death-rate was only 90 per thousand births, he saw little necessity for any practical proposals! This is not a legitimate use of the infantile death-rate. It is precisely what our statistician deprecated. It is bad logic and generates bad administration. Unfortunately, as the result of imperfect study of statistical data, the argument is very widely diffused. You can hear it from professional people as well as from lay people. You will find it elaborated to justify every variety of inaction. If you point out that, in one or two parts of Scotland where the housing and sanitation are hopelessly out of date, the infantile death-rate, for special reasons, falls as low as 40, you may stop the argument for a moment, but you produce no conviction. If you add that an infantile death-rate of 90 means continued danger to the survivors, you may derange some fixed ideas, but you will not liberate the wish to act. If, finally, you say that an infantile death-rate of 90 does not prove that nothing can be done for living children of one to five, you will find it almost impossible to get the stubborn mind away from the thought of babies under one. The attitude of mind is difficult to alter by argument. This is not an uncommon social

phenomenon. Whenever a movement gets enough headway to become statistical, its advocates tend to be satisfied with the simplest formula obtainable. The child-welfare movement, like the public-health movement, has now passed into the statistical phase of propaganda. In the hands of the competent statisticians, who co-ordinate all the indicative factors of this complicated problem, the infantile death-rate yields its legitimate lessons. And one lesson is that it is a starting-point, not a finishing-post. To take it as a first rough indicator of the evil conditions of living is legitimate and fruitful. But the time is long past for resting in the infantile death-rate as the sole test, or even the principal test, of administrative efficiency. When, however, it is interpreted in the light of its causes, when it is analysed into its constituent factors, it becomes a genuine guide to the discovery of the conditions that press most hardly on the lives of mothers and children. Later, this is illustrated; all I would here emphasise is the danger of using the simple abstract figure of the infantile death-rates not as a crude first test of the facts, but as a reason for doing nothing. Absolutely the poorest praise that can be bestowed on any institution is that it just keeps its children from dying. Yet to accept the crude infantile death-rate as a test of progress is really to assume that the conditions of living are quite satisfactory so long as the number of children killed is below the average. But I have been so struck with the widespread tendency to justify inaction by the use of the crude figures that, at the risk of producing a misunderstanding, I feel compelled to make this criticism.

The case for the supervision of the pre-school child I have based on the discovered diseases and the disease-rates, not on the deaths or the death-rates. This I have done deliberately. The disease-rates are a better index to problems than the death-rates. Had we relied on the death-rate to prove the case for medical inspection of school children we should still be attempting to prove it, and failing; for the death-rates at the school ages are the lowest of all. But the moment direct inspection revealed the tens of thousands of petty ailments and defects, not to speak of gross ailments and defects, the case for medical inspection of school children passed into the circle of accepted administrative duties. That is why in these studies I have put less emphasis on the mere deaths than on the concrete illustrations of the conditions of living. The child for the first five

years of life is an organism so tender, so easily broken, so easily damaged, that it needs all the care that first-class intelligence can give it. That can be proved by the practical study of a single child. For the drift of life in the country as a whole, or in any great community, the massed quantities of the deaths and death-rates are of immense value; but in the study of the individual child—and how to get to the individual child is our whole problem—it is much more important to know how long he sleeps, how he feeds, whether his temperature goes above the normal, whether he catches "cold" readily, whether he has had any of the specific infections, what varieties of microbes most readily attack him, whether he starts out of bed at night, whether he is housed in an overcrowded room, whether he shows the spontaneity natural to childhood, whether he is normal in his glands, bones, joints, skin, and senses—whether, in sum, he shows the rude healthiness of good nurture or the innumerable petty by-products of bad nurture. The death-rate leads us up to these problems; it does not solve them. That is the business of detailed administration. That is why we ought to think rather of the positive conditions of life necessary to keep healthy children always healthy than of the poverty-stricken ideal that is satisfied if a child is not actually killed by bad feeding, or bad nursing, or bad housing.

I. Children under One

2. *Infantile Mortality.*—What is the infantile death-rate? This is best answered in an example. In the year 1915 there were registered in Scotland the births of 114,181 living children. In the same year there were registered the deaths of 14,441 children of less than one year of age. For every thousand born, 126·5 children of less than one died. The infantile death-rate was 126·5 per thousand births. It is important to note that of the children that died some must have been born in the previous year; others, the majority, were born and died within the year. But it has been found convenient to express the deaths of children as a proportion of the births. But the death-rate of children under one can be expressed in other forms, for example, as a proportion of the estimated number of children living at the middle of the given year. This form is used in some of the Registrar General's tables. For certain purposes

it is a more convenient figure than the infantile death-rate technically so called. The two death-rates cannot coincide, and this sometimes gives rise to confusion. But in this Report the terms infantile mortality and infantile death-rate are used in the technical sense explained.

3. *The Infantile Death-Rate of Scotland as a Whole.*—Chart 2 shows the infantile death-rate for Scotland as a whole from 1855, the first year of registration, to 1916. The features of the chart are instantly manifest. *First*, no two consecutive years show the same figure; *second*, the range of variation is enormous; *third*, the rises and falls, as expressed in years, are markedly discontinuous. These three factors dictate caution in the interpretation of the figures. Thus it would be easy to say that, as the infantile death-rate in 1855 was 125 and in 1915 it was still 126, no progress has been made in the sixty years. The statement omits every important factor in the case. In 1855 the estimated population of Scotland was 2,978,065. In 1915 it was 4,785,598. In the meanwhile the whole conditions of life have altered: in many places for the better, in some for the worse. Before the 1855 rate can be compared with the 1915 rate, we should require a comprehensive analysis of the whole social conditions of 1855 and of 1915. The concentrations of population are different, the industries are different, the birth-rate is different, the exactions of life as a whole are different. It may very well be that, if the people of 1855 had been subjected to the stress of to-day, they would have shown a much higher infantile death-rate than the people of to-day. In the absence of analysis we cannot tell. And the analysis is of little importance for our purpose. But the danger of resting any conclusion on the figure of a single year is even more abundantly shown by the figure for 1916, the lowest figure on record. This may not prevent the current year, or next year, from being the highest.

To go back for a moment over the sixty years: within that period the rate fell to 108 per thousand in 1859; it rose to 132 per thousand in 1875. In 1879 it again dropped to 108; after some minor variations it swung up to over 130 and downwards again to 116. In 1897 it reached the maximum of 138. By varying stages it dropped to 105 in 1912. It rose again in 1913 and 1914, to reach 126 in 1915. In 1916 it dropped below 100. The infantile mor-

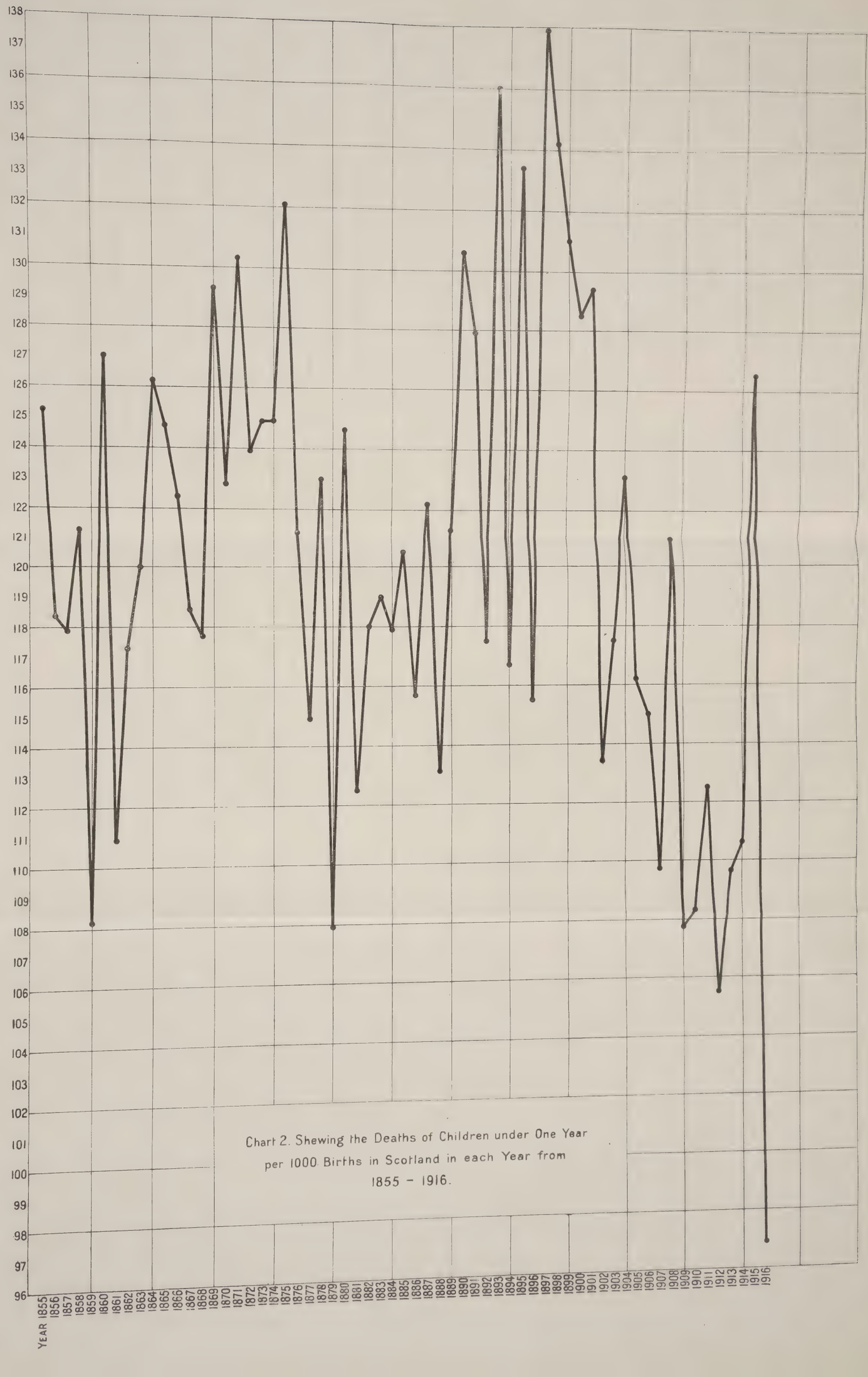


Chart 2. Shewing the Deaths of Children under One Year per 1000 Births in Scotland in each Year from 1855 – 1916.

tality rate for 1916, the Registrar General says, "is 9 less than the previous lowest infantile mortality rate recorded in Scotland, that for 1912, and this is the first time that this rate has fallen below 100."

One large general inference may safely be made: the chart proves the extreme susceptibility of children under one to the innumerable death-dealing agencies of the environment. These agencies are roughly classified as causes of death, and these causes we shall discuss; but it is well to remember that in the first year of life the infant is an organism of exceptional instability, liable to death from ten thousand unnamed or unnameable incidents, demanding through every hour of the year the unremitting systematic observance of a subtle and laborious ritual of nurture. The conditions roughly grouped as causes of death are only the easily observed and easily recorded major incidents in the child's life. But any mother that has brought any child from birth to the end of its first year can tell a tale of anxieties and crises too numerous and too complicated for any conceivable record. In the conditions of modern industry the difficulties and dangers of the infantile drama are intensified. No calculus can integrate the infinity of cares and anxieties that go to the upbringing of one child. These have their record not in tables of figures, but in the unresting eyes and the drawn faces of the mothers.

The general chart suggests many other points; but it is better to study somewhat more in detail a few recent years. For this purpose we take the figures for the five years from 1911 to 1915. These may be further consulted in the appendix. In those years the infant mortality ranged from 105 per thousand to 126 per thousand. What does that mean? It means that in the year 1915—to take a single year—114,181 children were born, and that 14,441 children died before reaching the end of their first year. That is to say, some fourteen battalions of children have fallen before their enemies. In the year 1911, 121,850 children were born; 13,707 children died within their first year. If we total the figures for the five years we find that 603,271 children were born alive; 68,021 died within their first year. These are the enormous figures on which the infantile death-rate is based. If a town of 70,000 people were wiped off the living records at a single stroke we should be appalled. Even if every inhabitant died within five years we should find it difficult to dislodge

the disaster from our feelings. But if the half of the population died from preventable causes we should wish to discover the methods of prevention. This is what is happening in the world of the new-born. Year by year the infants in their thousands drop into the earth; but no single person sees even a thousand die. The victims are scattered all over Scotland. It is a dead child in this cottage or that. This mother has lost her boy, that her girl. Even the doctors, however extended their districts, see many more of the living than of the dead. Not until the dead are marshalled in the massed figures of the central registers does anyone realise that in a single year more than 14,000 children have come and gone. Even then the figures do not create any sense of reality, for they are little known, and most of us think in pictures. But this we can say for our system of registration: the horror of its cold statistical tables compels us to investigate the causes of this shameful sacrifice and justifies every reasonable method of rousing the common imagination to action.

Of the children that die before birth the registers give us no record; but investigators have suggested that the deaths before birth are not less than the deaths after birth. Even if we take the deaths before birth at half the deaths after birth, the fact is staggering enough: in five years the record of the dead would then include over 100,000 Scottish infants.

4. *Larger Burghs, Smaller Burghs, and County Districts.*—These facts and figures alone should be enough to generate some interest in the detailed study of the tables presented in the Appendix and through the pages of the Report. And another fact should add to the interest. In our geographical survey we showed that the great masses of the population are scattered in the larger and smaller towns. Of the larger burghs as a whole the population in 1915 was 2,340,681. Of the smaller burghs the population was 935,857. Of the county districts the population was 1,509,060. If, as on general grounds we alleged, the pressure of life is for many reasons harder in the larger towns than in the smaller towns, and in the smaller towns than in the county districts, we should expect to find the fact verified in the infantile death-rate. And it is. In the larger burghs 8183 children under one died; in the smaller burghs 2601 died; in the county districts 3657 died. Expressed as an infantile death-rate, this means that in the larger burghs the

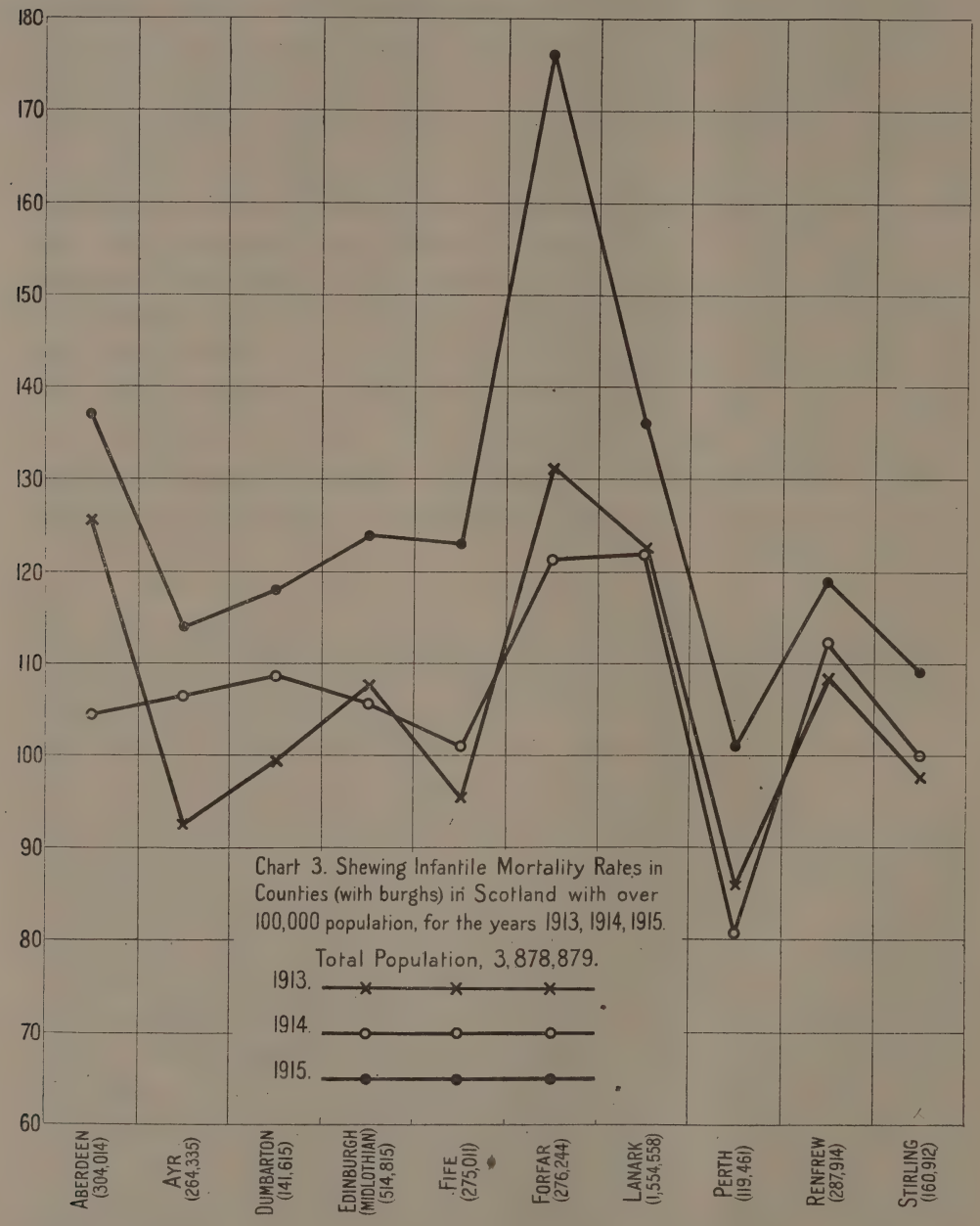
infantile death-rate was 144·3 per thousand births; in the smaller burghs, 120·6; in the county districts, 101·9. In other words, for every 101 children under one that died in the county districts, 120 died in the smaller burghs and 144 died in the larger burghs. These differences are startling. If you study the chapter on The Housing of Mother and Child you may find some of the causes, but the facts themselves are a serious criticism upon our civilisation. Even in the county districts many of those 3657 deaths could have been prevented by individual knowledge and forethought. The county districts cannot claim any superiority in their efforts towards prevention; but, even as the matter stands, the county districts are not so deadly as the smaller burghs, and these not so deadly as the larger towns. But in this welter of dying and dead infants the amount that individual forethought can achieve is not great; for many of the leading causes of death are infinitely beyond individual control, and will yield to nothing less than the organised forces of the common services.[1]

5. *Territorial Incidence of the Infantile Death-Rates.*—Chart 3 shows in a convenient form the territorial distribution of the infantile death-rates in the counties with more than 100,000 inhabitants. The three years 1913, 1914, and 1915 are represented. Like the general curve for Scotland as a whole, this curve, even for the three years, shows great variations. The territorial variations are even greater than the yearly variations. Each variation can be explained; and part of the explanation will appear in our account of some of the cities. But the chart conveys the same lesson as the other charts, namely, that the crude infantile death-rate varies so much both in time and space that no conclusion of much value can be drawn from it unless it is first analysed in the light of local conditions and experiences. To a certain extent the variations in the time incidence, and the variations in the space incidence, are due to the same cause, namely, the culminations of epidemic disease. These will be illustrated. But they only prove that the death-rate is of value essentially as an indicator of the disease-rate and must be interpreted in the light of local conditions.

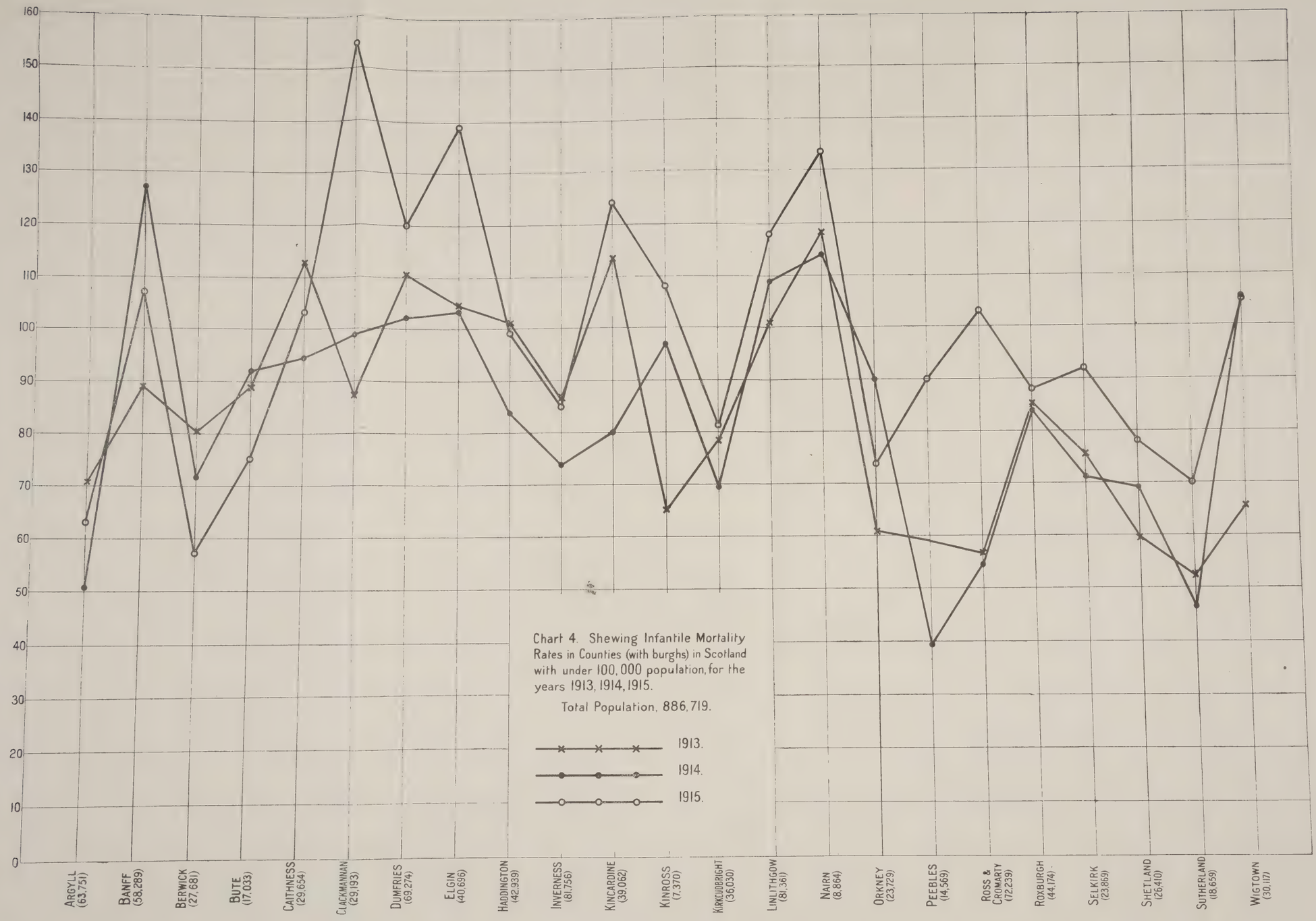
Chart 4 represents the same three years for the counties of less

[1] *Annual Report of the Registrar General for Scotland*, 1915.

than 100,000 inhabitants. Both in Chart 3 and Chart 4 the counties include the burghs.



Incidence in Larger Burghs.—For the larger burghs, the details of the years 1911 to 1915 are given in the appendix. Here I select a few illustrations. Within the five years the Glasgow infantile death-rate varied from a minimum of 123 in 1912 to 143 in 1915;


160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Chart 4. Shewing Infantile Mortality Rates in Counties (with burghs) in Scotland with under 100,000 population, for the years 1913, 1914, 1915.
Total Population, 886,719.
1913.
1914.
1915.
ARGYLL (63,751)
BANFF (58,289)
BERWICK (27,681)
BUTE (17,033)
CAITHNESS (29,654)
CLACKMANNAN (29,193)
DUMFRIES (69,274)
ELGIN (40,696)
HADDINGTON (42,939)
INVERNESS (81,756)
KINCARDINE (39,062)
KINROSS (7,370)
KIRKCUDBRIGHT (36,030)
LINLITHGOW (81,361)
NAIRN (8,864)
ORKNEY (23,729)
PEEBLES (14,569)
ROSS & CROMARTY (72,239)
ROXBURGH (44,174)
SELKIRK (23,869)
SHETLAND (26,410)
SUTHERLAND (18,659)
WIGTOWN (30,117)

in 1916 it dropped to 111. Edinburgh showed a range from a minimum of 101 in 1913 to a maximum of 132 in 1915; but in 1916 it dropped to 100. Dundee showed a range from a minimum of 135 in 1914 to a maximum of 210 in 1915; but in 1916 it dropped to 126. With the exception of Coatbridge, Dundee still stands highest among the larger burghs. Aberdeen showed a range from a minimum of 121 in 1914 to a maximum of 172 in 1915; but in 1916 it dropped to 113. Leith showed a variation from a minimum of 99 in 1914 to 133 in 1911. In 1915 its rate was 127; but in 1916 it dropped to 81.

The other large burghs show similar variations. Thus in 1914 Perth dropped to 80 and in 1915 rose to 156; in 1916 it again dropped to 75, the lowest among the sixteen larger burghs. Paisley rose to 133 in 1914 and dropped to 106 in 1915, and to the same figure in 1916. Falkirk ranged from 92 in 1912 to 139 in 1915, falling to 82 in 1916. Greenock ranged from 108 in 1914 to 145 in 1915, and dropped to 109 in 1916. Coatbridge stood at 140 in 1911, at 120 in 1914, at 129 in 1915, and at 130 in 1916, showing very little variation. Motherwell stood at 109 in 1911, at 104 in 1912, at 101 in 1913, at 101 in 1914, at 109 in 1915, and at 88 in 1916. The striking differences between two towns like Motherwell and Coatbridge, which lie within a few miles of each other and are largely concerned in the same industries, present a problem for detailed analysis. It is in the analysis of such local differences that we must hope to discover just in what form the death-dealing agencies of the environment score or fail to score their particular victories. The rest of the larger burghs show similar variations. These variations correspond roughly to the variations in Scotland as a whole. But the fact that to-day the death-rate is below 80 is no ground for expecting that to-morrow it may not be 120.

Incidence in the Smaller Burghs.—In the Registrar General's detailed Annual Reports the incidence of the deaths and death-rates in the smaller burghs is given with full detail. But in the great majority of the cases the populations are so small that the infantile death-rate in any one year is robbed of almost all its significance. When, for instance, Glasgow, with a population of 1,072,793 shows an infantile death-rate of 143, and the burgh of Culross, with a population of 476, also shows an infantile death-rate of 143, the two figures do not mean the same thing. From the mere coincidence in

the rate it would be as absurd to infer that the conditions of Culross were like the conditions of Glasgow, as it would be to infer that, in the same year, Aberfeldy (1547), Abernethy (551), Tobermory (862), Dollar (1372), Dornoch (751), Earlsferry (308), Falkland (797), Inveraray (447), Lochgilphead (717), Melrose (2045), New Galloway (324), Lasswade (840), and Lauder (599) were all infinitely healthier than Culross or Glasgow merely because their infantile death-rates in that particular year were all zero. Sound meanings can be elicited from those small numbers ; but, for our purpose, the case is sufficiently proved without further elaboration of figures.

II. Children from One to Five

6. *The Continuity of the Child's Life.*—The child does not cease growing at the end of the first year. There is not even a break. Biologically, the first birthday has no value. The partition of growth into years is only a practical convenience, an illusion of the calendar. The child that was under one an instant ago is above one the instant after. There would be no need to state the fact if the division by years did not tend to obscure the absolute continuity of the child's life. There are, indeed, phases that begin, develop, and pass into other phases ; but the phases do not coincide with the years. For many purposes it would be much better to have exact statistical quantities (as, in fact, we have) of the events of the child's first week, his second week, his third week, and his fourth week, rather than of his first year, his second year, his third year, and his fourth year. As methods improve, the studies of individual weeks gain in value, especially when the causes of death are in question. But the time divisions are all of some value, and for our immediate purpose—namely, the exhibiting of the crude deaths and death-rates —the division by years is enough. At the census of 1911 the total Scottish population under five years of age was 532,745. Of these, 108,381 were under one year ; 103,218 over one and under two years ; 109,503 over two and under three ; 107,016 over three and under four ; 104,627 over four and under five. The total population over one and under five was 424,364. The children over five and under ten numbered 513,758.

7. *Death-Rates from One to Five for Scotland.*—In all our dis-

cussions, therefore, these are the figures that formed the background. With the five years that have passed since the census the different groups have altered; but the alteration makes little difference to their relationship. In 1915 the total population under five was estimated at over 535,000. Of these, over 426,000 were over one and under five; the remainder—108,981—were under one. The death-rates we are now to discuss apply to the population over one and under five—namely, 426,000 persons.

Already we have said that there is no discontinuity of growth at the end of the first year; but the change from the suckling into the weanling, though it does not take place in a moment, is a fundamental change, and is soon reflected in the death-rate. Thus in the year 1915, while 14,441 children under one died, the total deaths of children for the four years from one to five numbered only 9120. The death-rate of the under-one population of about 109,000 was 132·5; the death-rate of the one-to-five population of about 426,000 was 21·4. The under-one death-rate is over six times the one-to-five death-rate.

If we take the corresponding facts for the larger burghs as a whole, we find that, in 1915, with a one-to-five population of about 206,909, there were 5959 deaths of one-to-five children—a death-rate of 28·8. In the smaller burghs, with a one-to-five population of about 80,300, the deaths were 1358—a death-rate of 16·9. In the county districts, with a one-to-five population of about 138,700, the deaths were 1803—a death-rate of 13. Here in the three death-rates—28·8, 16·9, and 13—we find the same relative fact as we find in the deaths of the population under one. For every thirteen children above one and under five that die in the county districts, about 16 die in the smaller burghs, and 29 in the larger burghs. Even if many of the county district deaths are preventable, the county districts have a clear advantage over both the smaller burghs and the larger burghs. The general statements made at the beginning as to the pressure of life in the centres of greatest concentration here find another verification. But the most striking fact about those figures is the great drop in the death-rate as the child passes into the years of greater and greater stability.

8. *Edinburgh Illustration.*—We could give many special illustrations, but two or three are enough. Through the courtesy of Dr Maxwell Williamson, Medical Officer of Health for Edinburgh, I

am able to present a chart showing the deaths of Edinburgh children under ten years of age for the years from 1905 to 1915. The black columns represent the deaths of children under one year; the white columns, the deaths of children above one and under five; the hatched columns, the deaths of children above five and under ten. These figures are not done into rates; they are set down as gross quantities, the intention being not to show their relation to the total population of the city, but their relation to each other. The black columns rise almost to the 1000 level and fall to below the 700 level; the white columns rise almost to the 550 level and fall to the 341 level; the hatched columns rise to the 136 level and fall to the 83 level. Consider, now, a single year, the year 1905. In that year 966 children under one died; 473 over one and under five; 106 over five and under ten. That is, the numbers that died under one were more than twice the numbers that died over one and under five; and these, in turn, were more than four times the numbers that died over five and under ten. In any of the other years the relation, if not as great, is sufficiently striking. Thus in 1912, 704 children under one died, 341 above one and under five, and 83 above five and under ten. These figures alone are enough to show that, in the first five years of life, the child passes from a relatively fluid organism of low resistance into a relatively stable organism of high resistance.

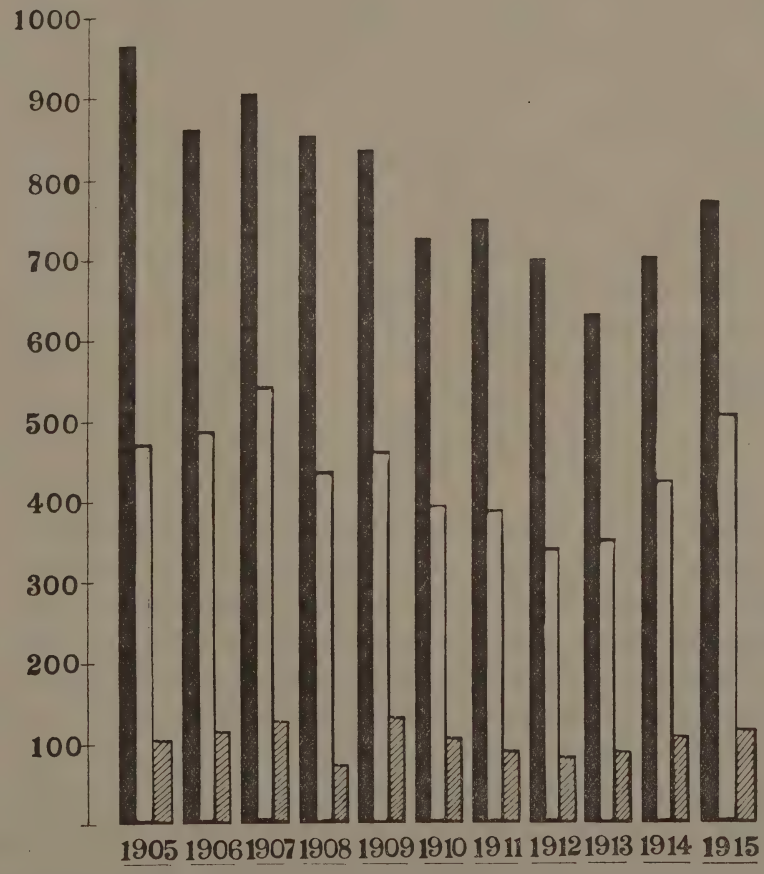
9. *Aberdeen Illustration.*—Take next an illustration from Aberdeen. Professor Matthew Hay, Medical Officer of the City, in his monthly, quarterly, and yearly reports, makes a special point of recording the deaths and death-rates of each individual year of the pre-school period. The result is a local record of the highest value. Unfortunately, in the detailed Annual Reports of the Registrar General for Scotland, the deaths and death-rates for the individual years are not published. Accordingly, it would be impossible, without special search, to obtain the deaths and death-rates for the populations of children existing at each of the first five years of life. But in Professor Hay's reports these deaths and death-rates are given from month to month and from year to year. Now that the study of the individual years is growing in urgency, the Registrar General for Scotland may, in the future, be able to publish the details for each of the five years. Meanwhile I take an illustration from Professor Hay's tables.

DEATHS AND DEATH-RATES OF PRE-SCHOOL CHILDREN

EDINBURGH

DEATHS of CHILDREN under 10 years

1905 - 1915



	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
under 1 year	966	862	907	859	841	728	750	704	631	709	774
1 and under 5	473	486	545	438	464	392	387	341	352	429	505
5 ,, ,, 10	106	113	126	75	136	109	90	83	88	116	120

■ = under 1 year. □ = 1 and under 5. ▨ = 5 and under 10.

SCOTTISH MOTHERS AND CHILDREN

In the Aberdeen Annual Report for 1914 Professor Hay gives averages for the five years preceding 1914.

ABERDEEN, I.—MORTALITY FROM ALL CAUSES ACCORDING TO AGE.
March, 1917

Age.	Population at each period of life. Estimated to middle of 1917.	Percentage of population at each period of life.	Number of Deaths.	Equiv. annual death-rate per 1000 persons living at each period of life.	
				1917.	Average of corresponding month, 1907–1916 (10 years).
Under 1 year . . .	3,724	2·23	41	129·6	166·9
1–2 years . . .	3,724	2·23	9	28·5	47·4
2–3 years . . .	3,774	2·26	5	15·6	24·2
3–4 years . . .	3,808	2·28	7	21·6	12·0
4–5 years . . .	3,774	2·26	1	3·1	8·7
Under 5 years (total) . (Pre-school period.)	18,804	11·26	63	39·4	52·6
5–15 years . . . (School period.)	36,957	22·13	6	1·9	3·8
15–25 years . . . (Adolescent period.)	31,947	19·13	8	2·9	5·0
25–45 years . . . (Early mature period.)	44,823	26·84	39	10·2	8·7
45–65 years . . . (Late mature period.)	25,568	15·31	50	23·0	26·2
Above 65 years . . (Post-mature period.)	8,901	5·33	84	111·1	108 9
All Ages	167,000	100·00	250	17·6	19·9

In Aberdeen, the populations existing at each of the first five years of life are as follows :—under one year, 3724 ; over one year and under two years, 3724 ; over two and under three years, 3774 ; over three and under four years, 3808 ; over four and under five years, 3774—total, 18,804. These populations are based on the census of 1911 as modified by reference to the increase or decrease in the number of inhabited houses from year to year. They are estimated to the middle of 1917. The total estimated population of the city of Aberdeen to the same date is 167,000. For the month of March 1917 the death-rates, taken in the same sequence as the populations, were 129·6 per thousand persons living ; 28·5 ; 15·6 ; 21·6 ; 3·1. The corresponding averages for the month of March in the ten preceding years, taken in the same sequence, were 166·9 ;

47·4; 24·2; 12·0; 8·7; or, to drop the decimals, 166, 47, 24, 12, 8. This rapidly descending series, interpreted biologically, means that the years of most rapid growth are the most dangerous. The death-rate of the first-year population is more than three times as great as the death-rate of the second-year population; the death-rate of the second-year population is nearly twice as great as the death-rate of the third-year population; the death-rate of the third-year population is twice as great as the death-rate of the fourth-year population; and the death-rate of the fourth-year population is nearly one and a half times as great as the death-rate of the fifth-year population. To carry the comparison one stage further, the five-yearly average death-rate of all the children under five for the month of March was 52; the average for all the children from five to fifteen was 3·8. That is to say, the death-rate for children under five was more than twelve times the death-rate for children of the school age.

10. *Magnitude of Death Totals.*—Let us look now at the gross figures for the five years from 1911 to 1915. As already shown, 68,021 children under one died; in the same five years 38,101 children of one to five died—a total of 106,122. Five army divisions are wiped out in five years. But these are only the dead. The disabled, the damaged, the deformed, the spoiled cannot be counted. They keep coming forward at the dispensaries, the out-patient departments, the school clinics, the cripple homes, the sick children's hospitals, the poorhouses. They are many times more than the dead; but how many times more we cannot tell. The system of registration deals with the dead very comprehensively; it has not yet overtaken with any degree of adequacy the diseased, or the damaged, or the deformed, or the spoiled. That is a task that lies in front of the new schemes of child welfare. It will be years before those schemes can succeed, for the arrears are terrible. With the current generation they can never succeed perfectly; for the children, flowing past over their fifth year to join the battalions of the older ages, will, in large numbers, be at school before they can be examined. They will be tested there; but, damaged by the neglects of the pre-school period, many of them will never attain to an adult life worth living.

11. *General Conclusions.*—Up to this point we have dealt only

with deaths and death-rates, not with causes of death. But the deaths and death-rates alone justify certain general conclusions.

The deaths, from whatever standpoint they are studied, leave no doubt that the early weeks, the early months, and the early years of infant life are by far the most dangerous. But the danger of death diminishes steadily with the increase of the years; the second year is less dangerous than the first, the third year than the second, the fourth year than the third, and the fifth year than the fourth. With every year of life the child grows fitter to resist death. If he can get safely to his fifth year he has a much better chance of passing beyond it. He will still be exposed to the attacks of disease, but he will be better able to meet them. The primary problem of nurture is how to bring the child forward from the danger of his first year to the relative safety of his fifth year.

And here let me insist once more on the continuity of the child's life. Among the many bad results of the abstract use of infantile death-rates one is predominant: the child of one to five is in danger of being forgotten. For many years the mind of official administrators and independent social workers has been so concentrated on the earlier phases of child life that the later phases have been, if not neglected, at least inadequately realised. The organisations that have spontaneously grown up centre round the baby; it is only now that the ex-baby has begun to come into his own.

Recently I had occasion to open a public discussion on the child of one to five. I had done my best to make the problems definite, to keep them clear of all confusion with the problems of infant mortality, and to show that the talking toddler is as real as the crying infant. But the first five minutes of the discussion showed the vanity of my efforts; for, with one or two striking exceptions, the speakers talked of the infant by hypothesis excluded, and left the discussion of the ex-infant to the future. And yet this was an association of expert workers The episode impressed me.

In the advance of a great movement these dislocations of feeling and practice are natural; but they must be remedied. The first condition of remedy is the clear-minded realisation that the continuity of the child's life is not interrupted by the years, but only punctuated by them. To suppose that the first year of life is divided in reality from the second and the second from the third is, as it were, to confuse real time with the sequence of figures on the clock-face.

DEATHS AND DEATH-RATES OF PRE-SCHOOL CHILDREN

The child from conception to the age of five must be thought of as a unity, not as a series of separable lives. The first test of good guardianship should be, Has he come through his first five years alive and well ?

The deaths and death-rates afford us endless opportunities for the intellectual discussion of problems ; but here the purpose is practical. We seek no refinements of calculation ; we seek only such quantities as will bring home the magnitude of the task. The deaths and death-rates compel us to search for causes. To the major causes of death we now turn.

CHAPTER XVI

PRINCIPAL CAUSES OF DEATH OF PRE-SCHOOL CHILDREN

1. *Fatal Diseases and Conditions.*—Here it is not necessary to make an exhaustive analysis of the diseases and conditions that kill the pre-school children. Four principles guide our selection of the causes of death—*first*, the causes of death selected are the predominant causes; *second*, they are almost all capable of partial or total prevention; *third*, they all require further research; *fourth*, they are all good matter for the education of the people.

The predominant causes of death among pre-school children are the following:—congenital debility and malformation, including premature birth; diarrhœa and enteritis; respiratory diseases, including bronchitis and all forms of pneumonia; infectious diseases, including measles, whooping-cough, scarlet fever, diphtheria and croup; tuberculosis, including pulmonary tuberculosis, bone tuberculosis, gland tuberculosis, brain tuberculosis, abdominal tuberculosis.

The deadly effects of those causes do not fall equally on the children of each year of the first five. The children of the first year die mostly from congenital causes, or diarrhœa, or respiratory diseases, or measles, or whooping-cough, or tuberculosis. At this age, scarlet fever and diphtheria, though deadly when they occur at all, do not claim so many victims as at the later ages; the greatest numbers fall to measles and whooping-cough. Diarrhœa, though not always in the infectious form, is always a leading cause of death, especially among children under one.

In the years after one the same causes operate, but the death-rates are not the same. In the second year the rapid infectious diseases are less deadly than in the first, and in the third year less deadly than in the second. At the end of the fifth year they are much less deadly than in the first three years. The practical lesson is obvious: every effort ought to be made, *first*, to prevent the occurrence of epidemics, and, *second*, to protect the individual child against infection till after the fourth or fifth year. This recommendation has a somewhat abortive look; but it is the best

practicable in extremely difficult circumstances, and, with improved organisation, it can be very widely honoured. At present it cannot be said that among the infections most fatal to the pre-school child the available powers of the community are fully exercised, even in the most advanced public health districts.

The three most deadly infections of pre-school life are measles, whooping-cough, and tuberculosis. Measles and whooping-cough—partly because they are infectious in the early stages before diagnosis is possible, partly because they are very easily communicated—come in tornadoes every year or two. Occasionally a local outbreak, by prompt action, may be arrested; but in the large cities arrest is practically impossible. What can be done, therefore, in the meanwhile by the ordinary methods of prevention is always a second best; but, as we shall see, it is a second best that is well worth doing.

Tuberculosis is a disease so elusive, so insidiously invasive, so widely spread in every community, so affected by variations in food, in housing, in occupation, in individual habit and nurture, that it can be prevented on the large scale only when the medical care of the individual patient is supplemented by a broadly conceived campaign against the defects of the environment. The campaign has been proceeding for years; but it is only now revealing to the general mind the magnitude of the problems.

Instead of discussing each of the predominant causes in detail, I propose, *first*, to indicate by the gross figures for Scotland and the principal towns the magnitude of each group of causes; *second*, to illustrate by one or two selected studies the incidence of particular diseases, especially as affecting the earliest years of life.

I. Congenital Causes: Debility, Malformation, Pre-Maturity

(See Chapter II., 2)

II. Diarrhœa and Enteritis as Causes of Death

In the five years from 1911 to 1915 diarrhœa was the cause of death of 8009 children under one. The figures for the different years are 1881, 1138, 1734, 1835, 1420. In the same period diarrhœa was the cause of death in the case of 1661 children from one to two. The deaths of children under one were about six times the total deaths of children from one to two. In the year 1915 alone, 1732 children of less than two years died of diarrhœa; but 1420 of these were children of less than one year. This is equivalent to a rate of 12·4 per thousand births. The corresponding rate in the year 1914 was 14·8. In 1915 this death-rate rose as high as 33·9 per thousand

births in Dundee ; 19·5 in Aberdeen ; 17·9 in Greenock ; 17·7 in Hamilton ; 17·2 in Kilmarnock. It fell as low as 5·8 in Kirkcaldy ; 9·0 in Leith ; 10·0 in Falkirk ; 10·5 in Paisley ; 10·6 in Edinburgh. In Motherwell the rate was 15·6 ; in Coatbridge, 15·5 ; in Perth, 14·8 ; in Ayr, 14·6 ; in Glasgow, 13·1 ; in Clydebank, 12·8.

In the same year the diarrhœal deaths at all ages were 2348. The fact that 1732 of these should fall within the first two years of life shows that the main problems of diarrhœa centre round early infancy. This is one of the chief grounds for the perpetual insistence on the correct feeding of young infants. All forms of diarrhœa are not due to incorrect feeding ; but many of the forms are. And probably incorrect feeding increases the susceptibility to the infectious forms. Further, for every fatal case there are many non-fatal cases. How many survivors there may be, our general data are not sufficient to determine ; but the numbers must be very great. Everything that contributes to the pollution of food contributes also to the forms of diarrhœa. Thousands of children, if they do not die, just escape death. Diarrhœa itself, in one or more of its forms, is probably a specific disease ; but it is also a common symptom and complication of other diseases. The diarrhœal death-rate is a very sensitive indicator both of the general scavenging of a district and of the food habits of the family. The ever-recurrent figures of death more than justify all the efforts that have been made to secure correct and clean food for the infant under one. This, even the mother's breast does not always provide ; for, as Dr Waller (*Lancet*, Nov. 4, 1916 : "Note on the Association between Oral Sepsis and Deficient Lactation") shows, the mother's milk may be poisoned by the mother's bad teeth, and the infant may die as the result—not from diarrhœa, but from vomiting and wasting.

III. Respiratory Diseases, including Bronchitis and Pneumonia

In the five years from 1911 to 1915 bronchitis or pneumonia, or some other form of respiratory disease, killed 21,431 children under five. Of this enormous number, 12,505 were children under one ; 8926 were children from one to five.

In the year 1915 alone, 6495 persons of all ages died of bronchitis. This number was 1766 more than the number of the previous year, and 1631 more than the mean of the preceding ten years. It was the largest number of deaths attributed to bronchitis since the year 1900. Of the 6495 deaths, 1595—that is, 24·6 per cent—were of children less than five years old ; of the 1595 children, 1193 were under one year. In discussing the returns of the School Medical Inspectors we saw that a large number of children at school entrance suffer from chronic bronchitis. The figures just quoted show that immense numbers in the first year of life suffer from acute bronchitis.

In the year 1915 pneumonia in all its forms was the cause of death in 7393 persons of all ages. Of these, 3554 were children under five ; and of these, in turn, 1860 were children under one. In the year 1915 the deaths from bronchitis and pneumonia combined numbered 13,888 at all ages. Of these, 5149 were children under five years of age.

This preponderance in the deaths of children under five calls for detailed

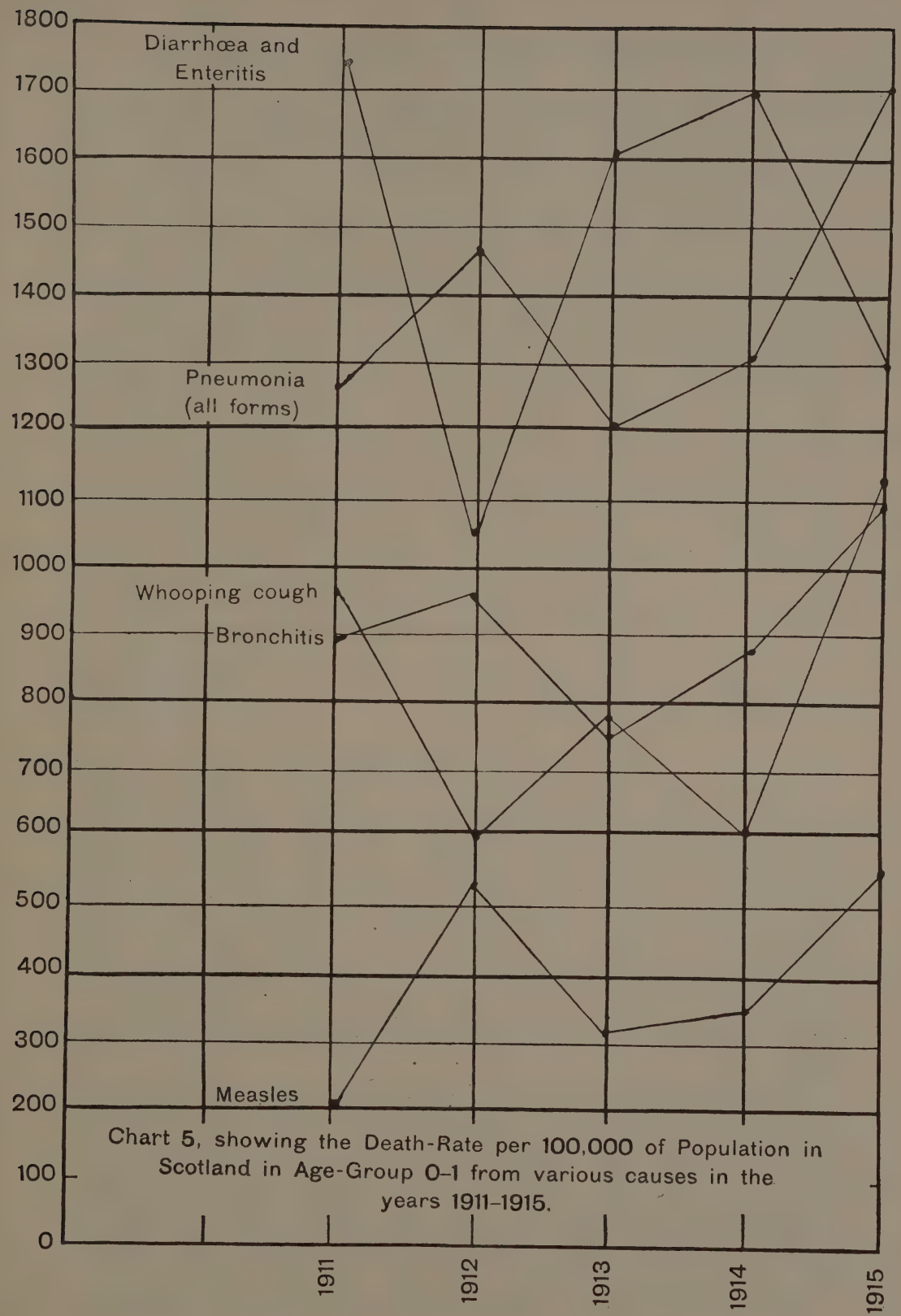


Chart 5, showing the Death-Rate per 100,000 of Population in Scotland in Age-Group 0–1 from various causes in the years 1911–1915.

explanation. As with almost all the diseases that afflict young children, these two prevail most in the areas of greatest concentration. Thus, in the larger burghs taken collectively, the 1915 death-rate from bronchitis and pneumonia combined was 344 per 100,000 ; in the smaller burghs, 264 ; and in the county districts, 223. The rate varied from 393 in Glasgow to 227 in Kilmarnock. The figures for a single year are, of course, quite inconclusive ; but the figures for other years show that the preponderance of the deaths among children under five is steadily maintained. Dr Chalmers indicates that the deaths from pneumonia follow the same general rule of incidence as the deaths from the ordinary infections (see chapter on The Housing of Mother and Child). It is greatest where overcrowding is greatest. Probably bronchitis would be found to vary in the same way. Overcrowding, it is to be remembered, does not mean merely the physical proximity of human beings. It means increase of dust, increase of dirt, insufficient ventilation, inevitable infection and re-infection, increase of atmospheric moisture in the sleeping-rooms, and a mass of other physiological discomforts. To these conditions the unstable organism of the young child naturally reacts with violence. It would not be unreasonable to say that the deaths from bronchitis or pneumonia alone show the need for the open-air crèche, even if it be but a fractional solution of an immense problem. The open-air bedroom is winning ground, but slowly. The open-air crèche, whether it be a shed or a perambulator, is a toning school to fit the child for his fight at home.

These diseases are specially dealt with in the report by Dr Mary Menzies on the children of the Hebrides.

IV. Measles and Whooping-Cough

In the year 1915 measles killed 2221 persons. Of these, 2065 were children under five years of age; 624 of these being under one year. In the same year whooping-cough killed 2820 persons. Of these, 2733 were children under five years; 1229 of these being under one year. Not in every year do these diseases kill so many ; but three years rarely pass without an epidemic of one disease or the other. Usually, according to the Aberdeen investigations, whooping-cough epidemics follow measles epidemics. But the diseases are hardly ever absent from the large centres of population ; fresh epidemics are continually generated whenever the inflammable materials are accumulated, and the numbers of children under five that steadily go under to those diseases have long been a serious drain on the child life of the country.

How great a drain it is may be inferred from the figures of the five years ending in 1915. Whether we should call them all or only two of them epidemic years makes little difference ; the deaths for the whole of Scotland were a very large number. In those five years measles killed a total of 7367 children under five, say seven battalions. Of the dead, 2127 were children under one year. Whooping-cough killed 9434 children under five, 4410 of these being under one. The two diseases together killed 16,801 children under five, say sixteen battalions.

These quantities are so enormous that even one accustomed to tabulation

and interpretation of tables doubts his eyes and has continually to verify the figures from the records. Unfortunately, the records give no comfort; for the figures are official and true.

Among the infections, measles and whooping-cough are the two worst scourges of the pre-school period, and not without serious danger even in the school period. The gross figures I have given show the wastage due to those diseases; but these facts it is possible to supplement by other facts showing at what ages the diseases are most dangerous and at what ages they become relatively not so much a danger as an inconvenience. That at any stage of life two diseases so frightful and sudden in their death-dealing power should show a slackening, gives some ground for expecting that ultimately methods of prevention, where they can be organised, may not always be as futile as they are to-day. At what stage of life are they most deadly, and when do they relent?

For an answer to this practical question data are available from many sources; but, fortunately, there is available one document where the specific problem is worked out in a way that has not been possible in any other part of Scotland. In the city of Aberdeen measles was compulsorily notifiable for a period of about twenty-one years—that is, from the end of 1881 to the beginning of 1903. In that period 40,374 cases of measles were notified—20,287 males, 20,087 females. Under the guidance of Professor Matthew Hay, Dr George N. Wilson classified and analysed this huge mass of data. Professor Hay, in his 1904 Report as Medical Officer of Health for Aberdeen, printed Dr Wilson's admirable investigation.

The following excerpts from Dr Wilson's report are selected to show, *first*, the leading features of measles epidemics; *second*, the ages of the persons attacked; *third*, the fatality of the diseases at the various ages, particularly the earliest years of life. For the full discussion of the data, I must refer those concerned to the thesis itself and to Professor Hay's subsequent reports, tables, and discussions. Other cities and counties have presented many careful analyses of the facts available; but, so far as I am aware, no Scottish document contains as close and conclusive a study of the history of measles in a large city. In the city of Edinburgh measles was compulsorily notifiable from 1879 to 1901. The yearly reports, both of the Medical Officer of Health and the Medical Superintendent of the City Hospital, contain much valuable data; but the Aberdeen investigation is better suited to our present purpose. In many of the Scottish counties measles was notifiable for a number of years, and it continues to be notifiable in the county of Renfrew. Dr Campbell Munro's careful studies for the county of Renfrew show how, in rural areas, measles can be relatively controlled. Several years ago, however, the great majority of Local Authorities, with the consent of the Local Government Board, dropped the compulsory notification of measles, mainly because the outlay on notification was disproportionate to its practical value. Recently, as the result of emergency war legislation, the expense of notification has been reduced by statute, and it is probable that in the near future notification will be resumed, at least in the principal centres of population.

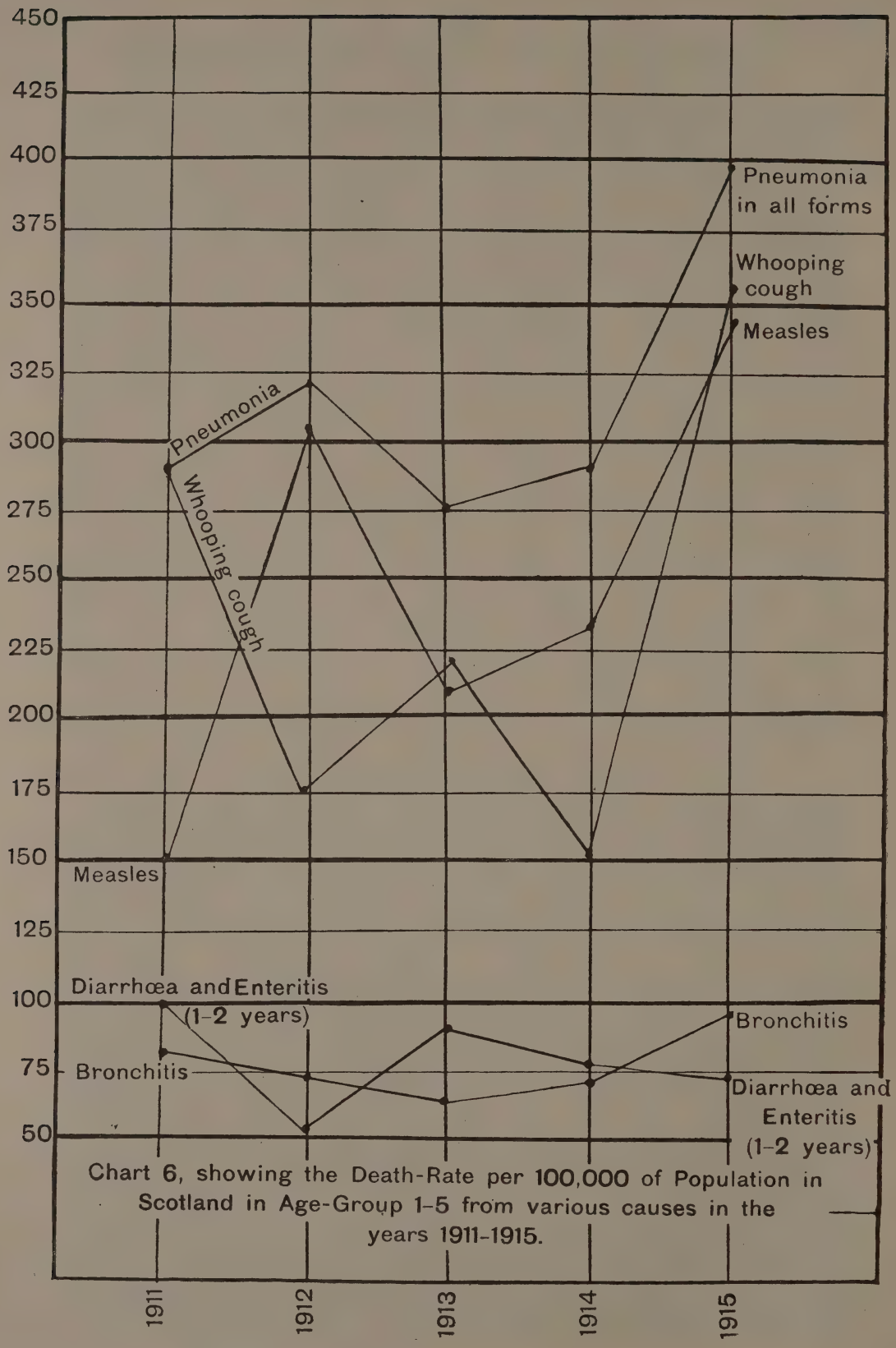


Chart 6, showing the Death-Rate per 100,000 of Population in Scotland in Age-Group 1–5 from various causes in the years 1911–1915.

CAUSES OF DEATH OF PRE-SCHOOL CHILDREN

Excerpts from Report by George N. Wilson, Esq., M.D., D.P.H., on Measles: its Prevalence and Mortality in Aberdeen

Incidence in respect of Age. (Sexes combined.)

The incidence of attack is heaviest—and about equally heavy—among children of the sixth, second, and third years of life, being, respectively, 86·3, 85·6, and 85·6 per thousand living at these ages. Next in order come children in the fourth year of age, their figure standing at 79·3 per thousand; followed by children in the fifth and seventh years of age, whose attack rates are, respectively, 75·4 and 75·2. These are the years of large incidence. Next come two years with a moderate incidence, namely, the eighth year of age, with an attack rate of 47·3 per thousand living, and the first year with a rate of 43·7 per thousand.

At a still lower level comes the ninth year, with a rate of 21 per thousand living; and from this to the age of fifteen years, with a rate of 2·6 per thousand living, the fall is rapid and in the order of the increase of age. The age group of fifteen to twenty-five years has an attack incidence of 1·4 per thousand living; and only seven cases are notified in twenty years as having occurred in persons over sixty years of age.

The lessening liability to attack in the higher ages is, of course, almost entirely due to so many at those ages being protected by a previous attack in childhood.

The chief conclusion from this chart is that the great bulk of children have before the completion of their eighth year taken measles, at any rate in a town like Aberdeen; and the practical inference is that it is needless in a threatened epidemic of measles to close schools in so far as children above eight years are concerned.

Incidence in respect of Sex. (Sexes separate.)

At every age, except the sixth year of age, the liability to attack is greater in females than in males, but the difference is small.

This greater liability to attack in females is most marked in the third and fourth years of age, females having an attack incidence of 91·1 and 86·1 (at these two ages), and males an incidence of 80·9 and 73·2 per thousand. At other ages the difference of incidence between the sexes is so slight as to be negligible.

Association of Measles and Whooping-Cough

Epidemics of measles and whooping-cough so frequently follow each other that it has been generally supposed that the former predisposes to, or in some way prepares the way for the latter.

If, as stated, measles precedes whooping-cough, the line showing the decline of the measles epidemic wave should be crossed by the rising line of the whooping-cough epidemic wave. This, as a matter of fact, occurs only in one instance, viz. in 1895. Indeed, it will be seen (chart not reproduced) that the declining wave-line of whooping-cough is more often overlapped by the rising epidemic wave-line of measles, as if whooping-cough were the precursor of measles. In most cases the peak of the measles epidemic is usually considerably closer to the peak of the preceding than to that of the succeeding whooping-cough epidemic.

Both diseases tend to be biennial in their epidemic periodicity, and alternate with considerable regularity.

Case Mortality in respect of Time

The chart shows that the case mortality has been undergoing a considerable diminution in the course of the twenty years. In the first five years it was 5·3 per cent.; in the second five years, 3·8 per cent; in the third five years, 3·5 per cent.; and in the last five years, 1·9 per cent. As all deaths from measles have presumably throughout the whole period been registered, while, probably, notification of sicknesses was less complete in the earlier than in the later years, a certain proportion of the fall in the case mortality may be more apparent than real; but when allowance is made for this there remains a sufficient margin of difference to justify the inference that there has been a real decrease in the case mortality.

The very irregular height of the case mortality is noteworthy, varying from 0 to 25 per cent. It will be observed that the highest peaks of case mortality in the chart coincide for the most part with a waning attack incidence, and are no doubt partly due to some of the numerous cases in a preceding quarter ending fatally in the next quarter, when the cases notified were few in number. But as the chart is prepared for quarters in place of months, in order to assist in avoiding the distortion due to this cause, it is

probably a legitimate inference that epidemics of measles are more fatal during their decline than during their rise. Some of the highest peaks of case mortality occur in inter-epidemic periods, and should not have too much importance attached to them, owing to the smallness of the numbers to which they apply.

It is also to be remarked that some of the largest epidemics—for example, in 1892–93 and 1898–99—have had a very low case mortality.

The general decline of the case mortality in Aberdeen may be in part due to the greater precautions and care exercised by parents in regard to cases on account of the supervision of the Sanitary Department, consequent upon notification, and to the printed instructions provided by the Department in each case. But too much must not be claimed for this.

Case Mortality in respect of Seasons

The case mortality is highest in the spring and summer months. There would appear to be in the course of the year three maxima, viz. :—In April (6·1 per cent.), July (5·6 per cent.), and November (3·0 per cent.), with corresponding minima in September (0·95 per cent.), December (2·5 per cent.), and June (3·1 per cent.).

Case Mortality in respect of Age

Chart VIII. represents the deaths from measles per hundred cases, at all ages, and at different ages, during the twenty years ending 1902, males and females being taken together.

The case mortality is shown for each year of life up to the age of fifteen years. Above this age the cases are arranged under three age periods—fifteen to twenty-five years, twenty-five to sixty years, and sixty years of age and upwards. The first year of life has been subdivided to show the case mortality in each of the four quarters.

The case mortality for all ages taken together, and for the whole period 1883–1902, is 3·33 per hundred cases.

As to the case mortality at the different ages, it is clearly seen from the chart that the first and second years constitute the period of life at which measles is by far the most fatal, the rates for these years being 13·9 and 10·0 per cent. respectively. In the third year of life there is a large drop to 3·4 per cent., which is only a little more than one-fourth of the rate in the first year. During the fifth and sixth years of life the mortality is between 0·5 and 1 per cent., while between the seventh and eleventh years it is about a half per cent., or less. But for two deaths in the fourteenth year, the mortality between the eleventh and fifteenth years might be regarded as nil. At the age periods of 15–25 and 25–60, the case mortality increases somewhat, being between a half and one per cent., or about as high as in the fifth and sixth years of life. Above the age of sixty there were no deaths, but there were only seven cases.

On analysing the case mortality within the first year of life, one finds that the rate is lowest in the first quarter, with 7·8 per cent., and rises with each quarter to 18·2 in the fourth quarter, the mortality being distinctly higher in the two later quarters than in the earlier quarters.

This chart also gives the number of cases, as well as deaths, in each quarter of the first year of life ; and it will be observed that the third quarter is by far the most prolific in attacks of measles.

Dr Laing, in his paper on whooping-cough, showed that in the first year of life the greatest case mortality is in the first quarter, thus differing from measles.

The practical conclusion from an examination of this chart is that it is of the greatest moment to prevent children taking measles during the first three years of life, but especially during the first two. If the attack could in every case be postponed till after these years, it is obvious that the reduction of the mortality from this, the most common of the zymotics, would be enormous.

Almost exactly the same observation fell to be made by Dr Laing in his corresponding paper on whooping-cough, where it was also shown that the years of high case mortality were especially the first two years of life. It may be of interest to give the case mortality for measles and whooping-cough side by side, during the first twelve years of life.

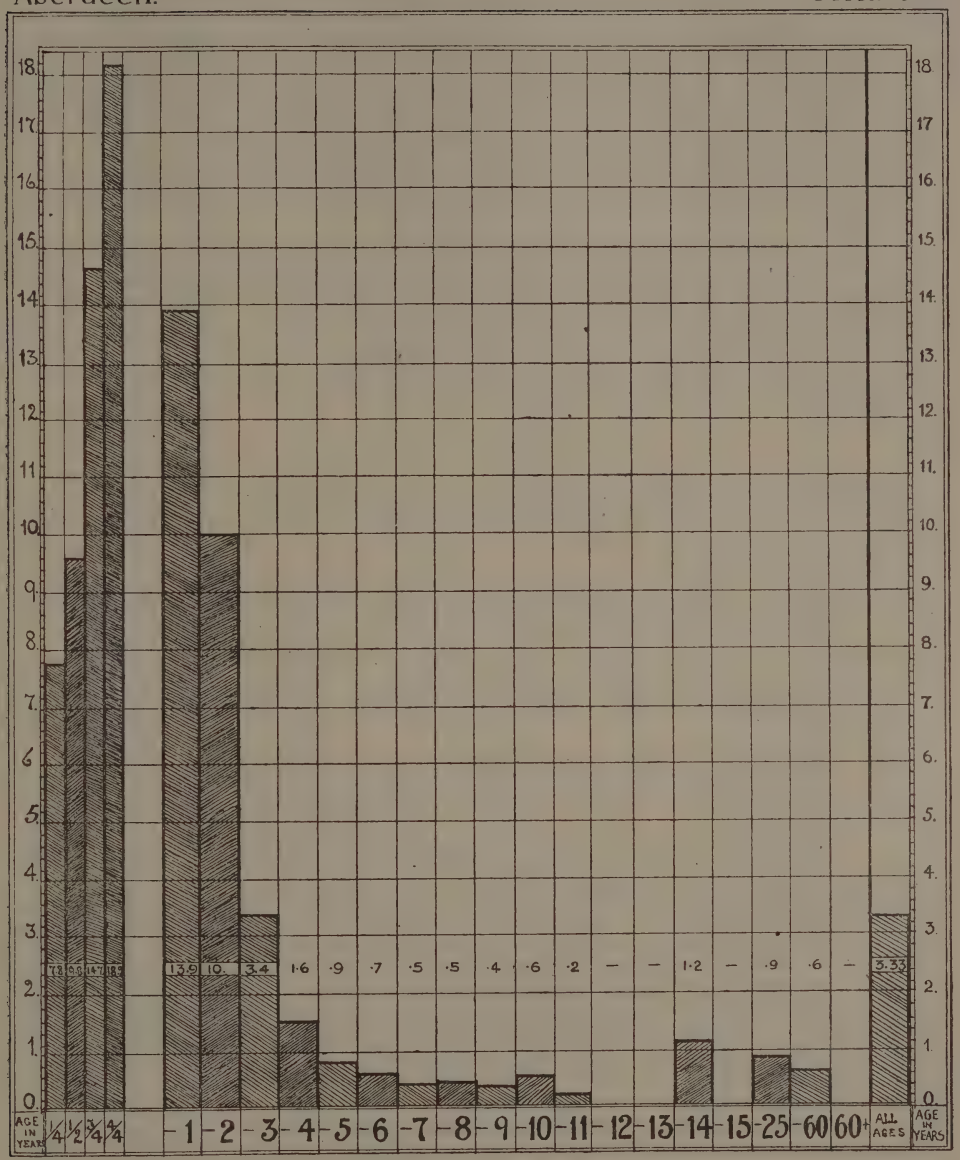
Case Mortality (per cent.)

Age (years)—	1	2	3	4	5	6	7	8	9	10	11	12
Measles . . .	13·9	10·0	3·4	1·6	·9	·7	·5	·5	·4	·6	·2	·0
Whooping-cough .	12·5	10·1	3·3	2·2	1·6	·5	·7	·1	·3	·0	·0	·0

In regard to the quarters of the first year, whooping-cough, differing from measles, shows the highest case mortality in the first and second quarters, and the lowest in

CAUSES OF DEATH OF PRE-SCHOOL CHILDREN

Aberdeen. Chart VIII.



	¼	½	¾	¼	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	25	60	60+	ALL AGES	TOTAL
Cases	244	665	1243	862	3034	5222	5185	3053	4836	5352	4628	2818	1258	672	406	259	241	169	150	762	312	71	40374.	
Deaths	19	64	186	157	426	526	178	82	43	35	21	14	5	4	1	-	-	2	-	7	2	-	1346.	

Number of Cases and Deaths dealt with at each age.

MEASLES.- Case Mortality, being the deaths per 100 cases at each age (average of 20 years.)
(Sexes Combined) (1883-1902)

the third and fourth; but, as with measles, the cases or sicknesses are most numerous in the third quarter.

Case Mortality in relation to Size of House

The average case mortality from measles for all houses taken together amounted to 2·4 per cent., but in one-roomed houses it was 6·8 per cent., or almost three times as great as the average; while in houses of four rooms and houses of five rooms and upwards it was barely 1 per cent., or only about one-third of the average. In other words, among those attacked by measles, for every child that died in a four- or five-roomed house, about seven children died in one-roomed houses. The mortality among measles patients in two-roomed houses was 3·0 per cent., or rather less than half the rate in one-roomed houses; and in three-roomed houses it was 1·8 per cent., or exactly twice as high as in four-roomed houses.

A comparison with a similar chart for whooping-cough, prepared by the late Dr James S. Laing, shows a like result, although the fall in the case mortality in larger houses is not so marked. The figures for whooping-cough were—in one-roomed houses, a case mortality of 7·8 per cent.; in two-roomed houses, 4·5 per cent.; in four-roomed, 3·4 per cent.; in houses of five rooms and upwards, 2·2 per cent.; and for all houses the percentage of deaths was 4·7 per cent., thus, apparently, showing that whooping-cough is somewhat less amenable to improved social conditions than measles.

Complications of Measles

It will be seen that 15·6 per cent. of all deaths from measles were reported as uncomplicated; that 22 per cent. were complicated with broncho-pneumonia; 16 per cent. with acute pneumonia; 16 per cent. with bronchitis; 4 per cent. with tubercular meningitis; and 1·2 per cent. with other tubercular diseases. In 12·2 per cent. the complication was convulsions.

Where more than one complication was stated in the death certificate, the primary complication is taken as the basis of the classification.

It is interesting to observe that broncho-pneumonia as a complication was most frequent among children of the age of four, and least common among infants under one year. Acute pneumonia was about equally common at all ages. Acute bronchitis, differing from broncho-pneumonia, was least common at the age of four, and most common at the school age period.

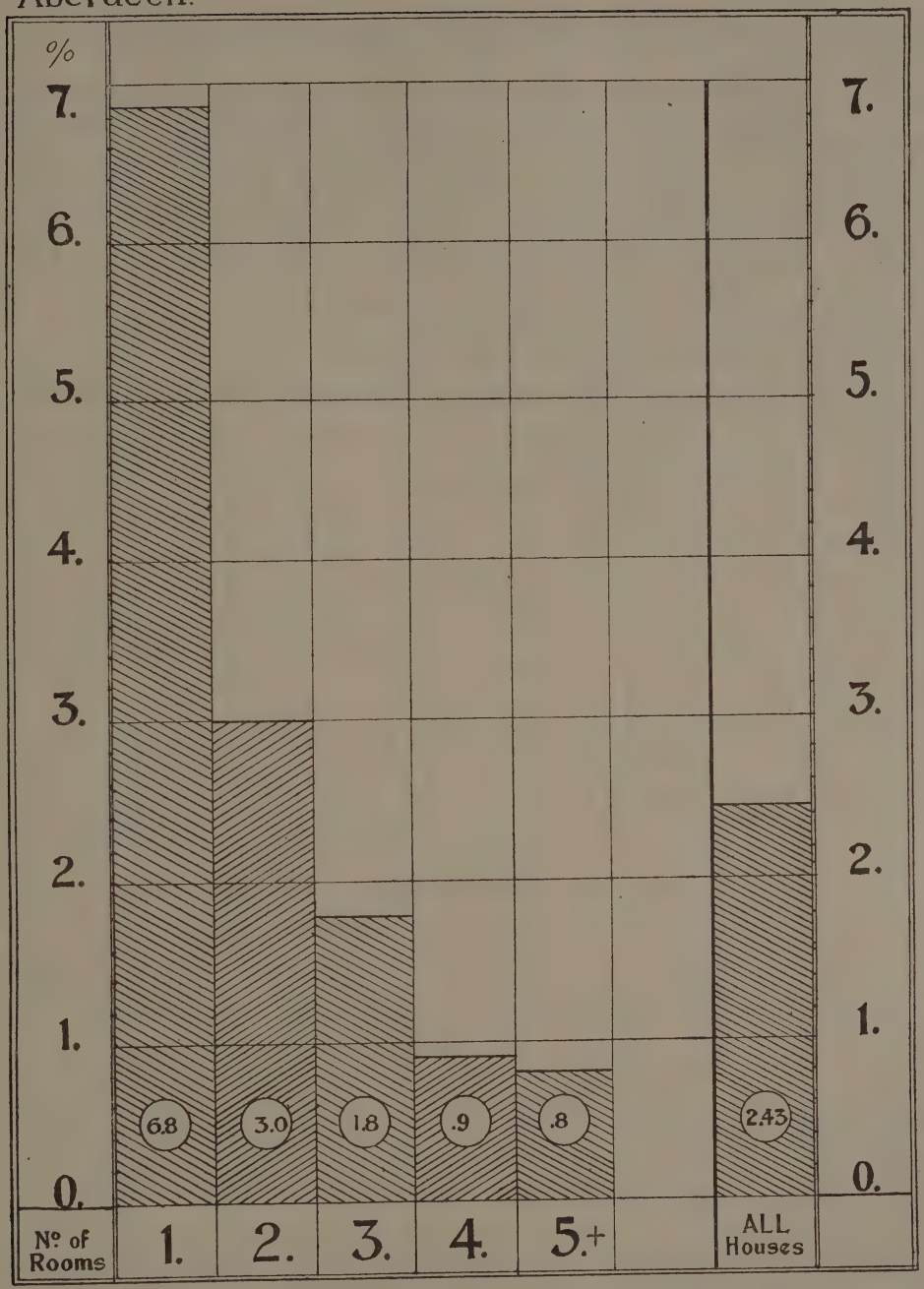
Among other complications, meningitis was most common during the first year of life. Gastro-intestinal diseases were most frequent during the second year, and much less frequent during the first year. Convulsions were by far most common among infants under one year.

In Aberdeen, for the same years, whooping-cough was also compulsorily notifiable. Under Professor Hay's guidance, the late Dr James S. Laing made a careful analysis of the whooping-cough notifications for the whole period. This is the investigation referred to in Dr Wilson's report. As the figures quoted by him show, whooping-cough affects most severely the same ages as measles, namely, the first, second, and third years. So far as I am aware, Aberdeen is the only place in Scotland, probably in Great Britain, where whooping-cough was notifiable for so long a period. The analysis of the facts, therefore, made by Dr Laing stands alone. These two investigations, along with Professor Hay's current studies of measles and whooping-cough, deserve a much wider public than official reports usually find.

V. Scarlet Fever and Diphtheria as Causes of Death

In contrast with measles and whooping-cough, scarlet fever and diphtheria are merciful. In the five years from 1911 to 1915 scarlet fever killed only 1733 children under five years of age, 149 of these being under one. This is what clinical experience teaches us to expect. Children under one are not very susceptible to scarlet fever. Personally, when, as a Medical Officer of Health, I received a notification of scarlet fever in an infant under one, I always doubted the diagnosis. Certainly, scarlet fever at this age is rare. Frequently, an infant at the breast remains uninfected even when the mother takes scarlet fever. It is not, therefore, surprising to find that the recorded

Aberdeen. Chart X.



CASES	1067	11464	6779	2046	2675		24031	
DEATHS	73	348	122	19	22		584	
AVERAGE No OF INMATES.	4.1	5.2	5.8	6.2				

MEASLES.– Case Mortality in different sizes of houses. (1893-1902)
(per 100 cases notified.)

scarlet fever deaths under one should, in five years, amount only to 150. This practical immunity of infants under one has not been satisfactorily explained, and will continue to form a subject for research. But with children of from one to five the case is different. In the same five years scarlet fever killed 1584 children under five. At what period the infantile immunity wears away it is not possible from our figures to determine; but it certainly ceases soon after the child is weaned. As in measles and whooping-cough, so in scarlet fever the second and third years are years of great danger. It should be added that among all the infections of childhood scarlet fever has received the lion's share of administrative attention. If persistently followed up it is easily controlled. The case mortality is higher than the case mortality of measles and whooping-cough; but, except in special epidemics, the number of cases in any one year is much less. In 1915, 270 children under one were notified as suffering from scarlet fever. Of these, 45 died—that is, a case death-rate of about 17 per cent. In the same year 6300 children over one and under five years were notified; 483 died—that is, a case death-rate of nearly 8 per cent. 15,961 cases of age from five to fifteen were notified; 346 died—that is, a case death-rate of slightly over 2 per cent. Here, as in the other infections, the same proposition is true: the first year is the most dangerous, but the danger is great for all ages under five.

In the same five years diphtheria killed 2478 children, 414 of these being under one year. In the first year of life diphtheria is peculiarly dangerous; but the number of cases is relatively small. Thus, in the year 1915, 7875 cases of diphtheria and croup were notified in Scotland. Of these, 2468 were children of over one and under five. Only 186 were children under one; but of the 186 children under one, 74 died—that is, a case death-rate of nearly 40 in every hundred. Of the 2468 cases of children from one to five, 493 died—that is, a case death-rate of about 20 in every hundred. In the same year there were 3593 cases over five and under fifteen; 133 deaths—that is, a case death-rate of about 6·5 in every hundred. As in measles and whooping-cough, so in diphtheria the child under one suffers most. On the other hand, the number of cases is relatively small. The children above one and under five also suffer severely, and the number of cases is considerable. But in its range of deadliness, diphtheria is far behind measles and whooping-cough; for, in 1915, measles and whooping-cough killed 16,801 children under five, and diphtheria only 567. Even this relatively small number is a discredit. It shows weakness in our social organisation somewhere; for, taken early, diphtheria is now one of the most easily treated of infections; taken late, it is one of the most difficult and deadly. There is evidence, too, that in mild and apparently harmless forms it is gaining a wider and wider empire.

VI. Tuberculosis

In the five years from 1911 to 1915 tuberculosis killed 7768 children under five; 2583 being under one, and 5183 over one and under five. If we take measles, scarlet fever, whooping-cough, and diphtheria together, we find that, in the same five years, they killed 21,426 children under five. Of these, 7090 were children under one; 14,326 were over one and under five. The

numbers dying from these four infections were nearly three times the numbers dying from tuberculosis.

The total deaths from tuberculosis at all ages usually exceed the total deaths from infection. Thus, in 1915, 7818 died of all forms of tuberculosis ; and 7733 died of the other infectious diseases. At the ages under five this is not true : 5893 under five died from the four infections named, and only 1410 from tuberculosis ; 1410 under one died from the four infections, only 459 from tuberculosis. Other years show for ages under five the same relationship of the four infections and tuberculosis. Thus in 1913 the numbers dying from the four infections were 3828 under five, against tuberculosis 1608 ; 1297 being under one, against tuberculosis 550 ; 2531 being over one and under five years, against tuberculosis 1058. For the ages under five, therefore, the four infections are easily first against tuberculosis. Nevertheless, the numbers that die from tuberculosis at those ages are very great, and rank as a primary problem.

There is a further important point : tuberculosis when it occurs in the first year is relatively more fatal than in the second year. In 1915 tuberculosis was the cause of death in 459 children under one—a death-rate of over 4·2 per thousand children living at that age. It was also the cause of death in 961 children over one and under five—a death-rate of over 2·2 per thousand children living at those ages. The figures for the individual years 1–2, 2–3, 3–4, 4–5 are not available. But this makes only the more striking the higher rate of mortality of children under one. The death-rate of children under one is about twice the death-rate of children from one to five, and this in turn is nearly three times the death-rates (0·82) of children from five to ten and from ten to fifteen (0·82).

How great the problem of tuberculosis among mothers and pre-school children is, these figures are too abstract to tell us. Here it would be out of proportion to demonstrate the causes of tuberculosis in general. They are only too well known. The chapter on " The Housing of Mother and Child " shows that where overcrowding is greatest, tuberculosis is also greatest. But at the pre-school ages overcrowding, though a leading cause, is not the only cause ; a large amount of tuberculosis is undoubtedly due to the milk supply. This I deal with in a separate chapter. Meanwhile, it is important to have two or three concrete pictures of the conditions in which Scottish tuberculous mothers and children live. The descriptions given below are selected from the great mass of cases collected by Dr Ernest Watt, Medical Inspector of the Local Government Board for Scotland, in the course of his official investigations in all the leading areas of Scotland. In the light of the descriptions, the spread of tuberculosis ceases to be a mystery.

Notes from Records prepared by Ernest Watt, Esq., M.D., D.Sc., *Medical Inspector, Local Government Board for Scotland*

Dr Watt has furnished me with a large mass of carefully described cases. In each case he gives a narrative of the patient's history and a description of the social setting at the moment. It would, however, overload this section to give in full even a selection of these records, which are themselves selected from a much larger number. A few details are enough.

A woman, aged 45, along with her husband and daughters aged 12 and 3 years respectively, occupied a one-apartment house, one stair up, in a four-storey tenement. The room was 10 feet by 12 feet, with a bed recess. The patient and the youngest daughter were in the bed. The patient was suffering from advanced pulmonary tuberculosis.

In another family a boy, aged 13, along with his parents and sister aged 3 months, lived in a one-apartment farmed-out house. The ventilation, lighting, and general sanitary condition were particularly bad.

In a two-apartment house the light was so defective that "at eleven in the forenoon one had to approach to within a yard of the bed ere her features could be distinguished." This patient had had five confinements, the last one in the Maternity Hospital. "That child lived for eight months. The others were still-born or died shortly after birth."

In another case the patient, aged 35, with his wife and fifteen-years-old daughter, along with three younger children, lived in a two-apartment dwelling, the sunk floor of a four-storey tenement. The ceiling of the apartment was practically on a level with the pavement. The three younger children were afterwards boarded out.

Another patient, male, aged 43, with his wife and two sons aged 5 and 2, lived in a two-apartment house in a four-storey tenement. They had previously lived in a one-apartment house; but, assisted by the Local Authority with a bed, they came to the two-apartment house, that the patient might have a separate room.

In another house a niece, aged 4, lived with a tuberculous aunt; bedding provided by Local Authority.

In another one-apartment house, two up in a four-storey tenement, the mother, suffering from advanced tuberculosis, lived with her husband and son aged 3. No medical attendant at date of visit.

In another case a married woman, aged 27, lived with her mother and two daughters aged 5 and 10 years, and illegitimate son aged 1½ years, in a two-apartment house, two up in a four-storey tenement. She left the hospital where she had been under treatment for eight weeks as she "thought the children were not being properly attended to in her absence." The patient had copious purulent sputum. "At time of visit there were about four ounces of sputum on a double sheet of newspaper lying on the floor at the bedside, and the leg of a chair was in contact with sputum. This and similar accumulations of sputum were supposed to be cremated. The patient explained that she had been advised by her practitioner to spit into paper and cremate it. The above appeared to be her interpretation of the injunction. The patient stated that at first she used a jar with disinfectant."

A man, aged 48, suffering from pronounced pulmonary tuberculosis, lived with his wife, five sons aged 14, 13, 10, 7, and 2, and two daughters aged 16 and 4 years, in a two-apartment dwelling in a four-storey tenement. "He has a bed in one apartment for his own use, and the elder sons are accommodated in a second bed in same apartment." He had been in hospital, but declined to stay. The son aged 2 years was a notified (peritonitis) case.

In the burgh from which these cases are taken there were several others equally striking; for instance, children of 1½, 2½, 4, and 5 years living in the same room with patients placed on so-called "domiciliary treatment." When children of these tender ages are nursed in the same room by tuberculous mothers, or sleep in the same beds with tuberculous sisters, the dosage of tuberculous infection from day to day must be enormous. The few items selected from Dr Watt's masses of information indicate only the essential groundwork of the infective processes. To understand how great the chances of infection are one must picture the plethora of persons, furniture, clothing, food-dishes, dirt, and dust necessarily incident to every overcrowded home. Every person in the "crowd" is exposed for the greater part of the twenty-four hours to a persistent bombardment of germs. To get away from them is impossible; to endure them demands first-class physiological form. This, in turn, demands first-class feeding and exercise, which, by hypothesis, are here impossible. The children, though the least able to resist, are the most exposed to the infective shrapnel.

Other towns furnish similar cases. In a small mining town a man, suffering from advanced tuberculosis, along with his wife, three adult sons, an adult daughter, and a grand-

son aged 4, occupied a two-apartment dwelling in a two-storey tenement. Between 1911 and 1913 two daughters and a son had died from tuberculosis, and at the time of visit the second son had symptoms of the disease. What chance of life has the child aged 4 ?

In another town a father, aged 30, with his wife, a son aged 9, and a daughter aged 13, and an infant daughter aged 1 month, lived in a one-apartment house in a miner's row of the old type. Before the patient's illness, three members of the family had died of whooping-cough.

In another town a man, aged 23, lived with his wife and daughter aged 4 in a one-apartment dwelling on the top floor of a two-storey tenement. " His wife at time of visit was somewhat hoarse, and it was suspected she also was suffering from the disease."

In another town a patient, aged 36, suffering from advanced tuberculosis, lived with her husband, two sons aged 14 and 9, four daughters aged 13, 7, 3, and 1, in a one-apartment house in the attic of a four-storey tenement. The father's habits were, no doubt, a factor in bringing the family down ; but on what grounds should the infant of one and the child of three be sacrificed ?

The records contain other cases from nine different towns, partly of the east, partly of the west, and from one large industrial county. From these and other records prepared by Dr Watt for the Local Government Board, as well as from earlier records prepared by Dr Dittmar, Medical Inspector, Lieut.-Colonel Dewar, A.D.M.S., Medical Inspector, Dr Elizabeth M'Vail, formerly Lady Medical Inspector, it would be possible to produce some scores of cases where tuberculous mothers and children live in homes that preclude the possibility of health even for the healthy, not to speak of care for the sick and dying. It is quite true that, even in the over-congested one- and two-room houses of the cities, one frequently finds women of moral energy sufficient to maintain a relative cleanliness and physical order ; but the moral energy spent on the keeping of such houses clean and the children in them safe is apt to be socially wasted ; for often the main result of the exhausting labour is merely to keep a slum from condemnation and to create an income for its owner. In some of the conditions described, however, no amount or potency of moral energy in the mother can secure to the children either cleanliness or safety.

The cases are more numerous where the overcrowding of houses and people is greatest ; but they are not confined to the towns. The rural cot-houses, the farms, the country villages, the islands all furnish their quota. Nor is bad housing or bad general nurture the only condition that leads to the diffusion of tuberculosis. Tuberculous milk is also a potent agent. (See Addendum, Chapter IX.) An equally potent preparatory is underfeeding.

Professor Sir Robert Philip, M.A., M.D., F.R.C.P.E., F.R.S.E., in speaking of " The Presence and Prevalence of Tuberculosis in Childhood," said :

" Why, then, this almost universal distribution of tuberculosis among the young of the race ? The answer brings us to the bedrock of physiological truth and gives the key to the problem of prevention. Recall present procedure in the rearing of children. In a vain endeavour to protect him from harm the child is clumsily removed from the beneficent ministrations of Nature. The vital atmosphere is replaced by one which is obviously—to the undulled sense—of human provision. Sunlight is obscured by shade of every kind and degree. Nutrition is frequently mismanaged, and natural movement and development impeded by a multiplicity of restraining bands. The process of devitalisation thus inaugurated is maintained from week to week and month to month. The infant is prepared for successful invasion by infections of all kinds. Continuously in the unwholesome environment,

he falls a prey especially to the tubercle bacillus, by whatever channel it may be introduced. For, unhappily, the conditions which are inimical to the life of the child are essentially those favourable to the tubercle bacillus.

"The child who has been thus tuberculised is doubly significant, because of what he is and because of what he may become. The tuberculosis of a people begins in the nursery and in the schoolroom. It is to the nursery and schoolroom that observation and effort should be directed, if measures for the eradication of tuberculosis are to be fundamentally sound and practically effective.

"The problem of tuberculosis in childhood will not be solved by the erection of hospitals or homes for cripples and sick children. These have their immediate temporary significance. But beneficent as is their purpose, and splendid as their results have been, they do not carry us far enough. The essential question is not how to tinker up diseased frames. The issues involved are much wider. The problem can only be solved effectively by a better understanding of the physiological needs of developing life and a corresponding renovation of the nurseries and schoolrooms of the nation."

2. *Practical Conclusions.*—This rapid survey of causes is enough to ground certain practical conclusions: *first*, that the provision for pre-maturity and congenital ailments is insufficient; *second*, that the provision for general sickness, as typified by bronchitis, pneumonia, and infantile diarrhœa, is very inadequate; *third*, that the present provision for infection, though larger than for any other single group of diseases, is not large enough even for the serious cases of measles and whooping-cough; *fourth*, that the provision for tuberculosis, though considerable, falls far short of what is wanted.

CHAPTER XVII

PROVISION FOR THE MORE COMMON INFECTIOUS DISEASES

1. *Numbers Notified.*—In the year 1915, 59,280 cases of infectious disease were notified to the Medical Officers of Health. This number is a little in excess of the number for 1914, when 58,471 cases were notified. This, again, is considerably in excess of the number for 1913, when 51,963 cases were notified. Probably the differences are due to incidental epidemics; but it may be taken that, in any one year, from 50,000 to 60,000 cases of infection are notified to the Medical Officers of Health.

From the twenty-second Annual Report of the Local Government Board for Scotland, 1916, I reproduce the summary of the notifications for the year 1915. This table shows the diseases notified, the numbers notified, the age groups of the patients, the totals for the landward areas, the totals for the burghal areas, and the grand totals for Scotland. It also shows the numbers of patients removed to hospital. Here we must limit ourselves to children under five. Except for the notified cases of puerperal fever, it is not possible to say from the figures how many mothers suffered from infection. But it is certain that, among the 20,105 cases of ages from fifteen to sixty-five, a large number were mothers.

Of children under one, 1792 cases were notified; of children above one and under five, 11,692 cases were notified—a total of 13,484.

2. *Diseases Notified.*—Diseases notified include enteric fever, typhus fever, smallpox, chicken-pox, scarlet fever, diphtheria and membranous croup, erysipelas, puerperal fever, continued fever, cerebro-spinal meningitis, pulmonary tuberculosis, non-pulmonary tuberculosis, and a few other infections. The table reprinted includes measles, but it is notified only in one or two places, and the numbers given in the table are no index whatever of the numbers that occur in Scotland as a whole. Chicken-pox is notifiable only in some places, and the numbers recorded are no index of the numbers occurring in the whole country. The diseases that most affect

INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889

Table showing for the year ended 31st December 1915 the number of cases of each Disease notified under the Infectious Disease Notification Act, 1889, and of cases of Tuberculosis notified under the Public Health (Tuberculosis) Regulations (Scotland), 1914, at certain age periods; together with the number of such cases treated in hospital.

N.B.—The infectious disease statistics have been supplied by the Medical Officers of Health. The estimated population, which is in every case based upon the Census figures, has been supplied by the Registrar General.

Population. (1) Census 1911. (2) Estimated to middle of 1915.	At Age—Years.	Number of Cases Notified.																		
		Typhoid or Enteric Fever.	Typhus Fever.	Smallpox.	Chicken-pox.	Scarlet Fever or Scarlatina.	Diphtheria and Membranous Croup.	Erysipelas.	Puerperal Fever.	Continued Fever.	Cerebro Spinal Meningitis.	Measles.	Ophthalmia Neonatorum.	Infantile Paralysis.	Tetanus.	Trachoma.	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Other Infectious Diseases.	TOTAL.
		Total Landward.																		
(1) 1,528,586* (2) 1,484,599†	Under 1	..	..	..	13	72	35	32	..	..	5	63	56	1	..	..	6	71	..	354
	1 and under 5	14	..	..	129	1,729	565	34	..	..	17	558	..	1	..	..	30	276	..	3,353
	5 „ „ 15	115	..	..	167	4,609	1045	49	..	2	20	650	..	..	1	..	305	443	..	7,406
	15 „ „ 65	194	1	1	5	1,224	428	856	69	1	32	106	..	..	..	..	1763	475	..	5,155
	65 and upwards	7	..	..	..	3	4	125	..	..	..	1	..	..	..	..	40	8	..	188
	Age not ascertainable	16	..	..	..	36	19	13	..	..	..	..	..	..	..	..	10	4	..	98
	All ages	346	1	1	314	7,673	2096	1109	69	3	74	1378	56	2	1	..	2154	1277	..	16,554
	Removed to hospital.	285	..	1	..	5,632	1567	61	20	1	60	35	4	..	..	..	813	177	..	8,656

		Total Burghal.																		
(1) 3,190,772‡	Under 1	2	..	1	46	198	151	69	..	..	49	11	559	2	..	3	39	307	1§	1,438
(2) 3,269,324‖	1 and under 5	40	1	1	166	4,571	1903	104	..	..	83	85	..	4	..	2	227	1145	7§	8,339
	5 „ „ 15	240	8	2	256	11,352	2548	209	..	5	81	46	..	1	..	56	978	1726	6§	17,514
	15 „ „ 65	434	13	9	7	2,906	1175	3073	286	11	122	2	..	..	..	55	5436	1419	2§	14,950
	65 and upwards	3	1	..	..	5	2	351	..	2	..	..	..	..	..	1	97	22	1§	485
	Age not ascertainable	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	All ages	719	23	13	475	19,032	5779	3806	286	18	335	144	559	7	..	117	6777	4619	17§	42,726
	Removed to hospital	629	21	13	6	15,797	5061	656	186	13	286	..	102	1	..	12	2947	480	17§	26,227

SCOTLAND.

		Grand Total.																		
(1) 4,719,358¶	Under 1	2	..	1	59	270	186	101	..	..	54	74	615	3	..	3	45	378	1§	1,792
(2) 4,753,923**	1 and under 5	54	1	1	295	6,300	2468	138	..	..	100	643	..	5	..	2	257	1421	7§	11,692
	5 „ „ 15	355	8	2	423	15,961	3593	258	..	7	101	696	..	1	1	56	1283	2169	6§	24,920
	15 „ „ 65	628	14	10	12	4,130	1603	3929	355	12	154	108	..	..	..	55	7199	1894	2§	20,105
	65 and upwards	10	1	..	..	8	6	476	..	2	..	1	..	..	..	1	137	30	1§	673
	Age not ascertainable	16	..	..	..	36	19	13	..	..	..	..	..	..	..	..	10	4	..	98
	All ages	1065	24	14	789	26,705	7875	4915	355	21	409	1522	615	9	1	117	8931	5896	17§	59,280
	Removed to hospital	914	21	14	6	21,429	6628	717	206	14	346	35	106	1	..	12	3760	657	17§	34,883

* Exclusive of 5261 men of the Royal Navy, and of the population, 26,452, of those Districts from which no Returns were received.
† Exclusive of the estimated population, 24,461, of those Districts from which no Returns were received.
‡ Exclusive of 2333 men of the Royal Navy, and of the population, 7500, of those Burghs from which no Returns were received.
§ Unclassified (undefined Fever, etc.) ‖ Exclusive of the estimated population, 7214, of those Burghs from which no Returns were received.
¶ Exclusive of 7594 men of the Royal Navy, and of the population, 33,952. of those Districts and Burghs from which no Returns were received.
** Exclusive of the estimated population, 31,675, of those Districts and Burghs from which no Returns were received, and of 5755 men of the Royal Navy, but inclusive of a shifting fleet population of 1839 (stationed at the time of the Census in the Cowal and Lorn Districts of Argyll), which the Registrar-General in estimating the population for 1915 has allocated proportionally among all the landward and burghal areas.

children under five are scarlet fever, diphtheria and membranous croup, and non-pulmonary tuberculosis. Of tuberculosis, the numbers notified are probably far below the numbers existing; notification is frequently restricted to well-marked cases. On the other hand, the notified cases of scarlet fever and diphtheria constitute a very large percentage of the cases occurring.

3. *Cases removed to Hospital.*—Of the 59,280 cases notified, 34,883 were removed to hospital. Of the 26,705 cases of scarlet fever notified, 21,429 were removed to hospital. Of the 7875 cases of diphtheria and membranous croup notified, 6628 were removed to hospital. Of the 8931 cases of pulmonary tuberculosis notified, 3760 were removed to hospital; but of the 5896 cases of non-pulmonary tuberculosis notified, only 657 were removed to hospital.

These figures are very important. Compare for a moment the removals for scarlet fever with the removals for pulmonary tuberculosis. In scarlet fever, the great mass of the cases notified are below the age of fifteen; about one-fourth are below the age of five. In pulmonary tuberculosis, on the other hand, the great mass of cases notified are of ages over fifteen; only some 300 out of a total of 8931 are of ages under five. In non-pulmonary tuberculosis the figures are somewhat different. The majority of cases notified are under the age of fifteen; about a third of them are below the age of five. But while out of 26,705 cases of scarlet fever 21,429 were removed to hospital, the number of cases of non-pulmonary tuberculosis removed was only 657 out of a notified total of 5896. From these figures alone, it is possible to infer that the hospital provision for scarlet fever is very much greater than the hospital provision for cases of non-pulmonary tuberculosis.

4. *Number of Hospital Beds for Common Infections.*—Many years ago, the Local Government Board for Scotland, as the result of experience, decided that, for the most common infections, hospital provision of one bed per thousand of the population was sufficient in towns and one per fifteen hundred in rural areas. They also decided that, as a rule, the smaller hospitals should provide only for two, or at most three, distinct infections. The three infections usually provided for are scarlet fever, diphtheria, and typhoid fever. The smallpox hospitals are separate hospitals. But removals to hospital are

not confined to the diseases named. On the contrary, many Local Authorities, particularly those of the large cities, remove to hospital considerable numbers of patients suffering from measles, whooping-cough, erysipelas, etc. In those cities there is usually specific provision for measles and whooping-cough; but, relatively to the numbers of cases that occur, provision is never on the same scale as for scarlet fever, enteric fever, or diphtheria.

For those diseases the number of beds provided is approximately 6085. This is equivalent to one bed for eight hundred of the population. But it is not to be assumed that the beds are equally distributed over the whole population. In one city the provision amounts to rather more than one bed per five hundred of the population, and in epidemic times this is found much too little. But it may be said generally that for no other group of diseases is the hospital provision so great or so effectively worked.

5. *Outdoor Provision for Infection.*—To the hospital provision must be added the provision made for outdoor supervision of infection. The outdoor staffs now include sanitary inspectors, nurses, and health visitors. In all the great concentrations of population some of those officers are constantly at work. A case of infectious disease is always a starting-point both for immediate inquiry to prevent further infection and for sanitary investigation of the house or its surroundings. Where the cases come in shoals, as in measles and whooping-cough, hospital accommodation rapidly gives out and the visiting staff usually proves quite inadequate. But, under the new powers of the Local Authorities, it is expected that the visiting staffs will be increased. The outlays for the salaries of health visitors appointed to superintend the home treatment of measles and summer diarrhœa will rank for grant on the same footing as the officers appointed under a maternity and child-welfare scheme. It must, however, be admitted that the outdoor superintendence of infection is one of the least satisfactory activities of the public health authority. Here the health authority has to face the multiple effects of bad housing and overcrowding. At the best, outdoor superintendence can do only a small part of what is necessary; but it is a part worth doing. Undoubtedly, in cases of measles, whooping-cough, and diarrhœa, the systematic attentions of a skilled nurse in the home save many lives.

6. *The Provision of Convalescent Homes and Reception Houses.*—The figures I have reproduced show that the Local Authorities do an enormous amount of work both for the treatment and prevention of infection. Nevertheless, they have not developed their full powers. The Public Health Act applies not only to the two or three more common and more fatal infections, but to all infectious diseases whatsoever. For various reasons, mostly financial, the activities possible under the Public Health Act have been confined to a few infections. But in the time to come, now that the ravages of measles, whooping-cough, and diarrhœa are becoming manifest to everybody, the Local Authorities' activities will certainly include a much greater proportion of the cases suffering from those diseases. But, apart from hospital accommodation, the Local Authorities have also power to provide "houses of reception for convalescents from infectious diseases, or for persons who have been exposed to infection" (Public Health (Scotland) Act, section 66). This is a far-reaching power, but it has been little exercised. There has not, in the whole of Scotland, been any serious effort to provide accommodation for convalescents from infectious disease. The failure to make such provision is probably due, *first*, to the considerable expense of the excellent hospitals for infectious disease provided all over Scotland; *second*, to the fact that those hospitals themselves act very largely as suitable places for convalescence. The sites are carefully selected; the hospitals are carefully pavilioned; the cubic space approximates to 2000 cubic feet per patient; and, generally, the hygienic conditions are of the highest order. Recently, however, as the result of the increased use of the hospitals by the public, a tendency has shown itself to reduce the period of hospital treatment to a minimum. The minimum is determined by the date when a child becomes free of infection. The result is that, in many cases, children are discharged from hospital free of infection, but far from fit to resume civil life. So long as the discharge from hospital is determined solely by the freedom from infection, without regard to the general conditions of nutrition, this result will be inevitable. But a further result is also inevitable. If the period in hospital is thus reduced, the need for convalescent homes is proportionately increased. The tendency to reduce the period of hospital treatment arises naturally from the older view of a Local Authority's duty, namely, that in infectious disease the whole duty of a Local Authority

is discharged when isolation is provided for. This was never strictly true, because, literally taken, it would have meant that once a patient was isolated in hospital, he might be allowed to die. Isolation necessarily involves treatment. The plain duty of a Local Authority is not merely to remove a patient from his home to the hospital, but also, by application of the best methods available, to make the patient reasonably fit to resume his ordinary life. In general, this is what happens; but, as I have said, the tendency to reduce the hospital period, especially for young children, is steadily growing. It is, however, precisely in the case of the young children that a prolonged convalescence is most necessary. It is not proposed to retain a child in hospital beyond the infective period unless the hospital itself has abundant space for isolated convalescents. This in some of the larger hospitals in non-epidemic times is fully realised. But as a rule, it is not. If, however, the younger children, particularly the children under five, are to have the full benefit of the Local Authority's resources, they should have, before returning to home life or to school, a period at a convalescent home.

For all the infections this is desirable; but in the case of measles and whooping-cough it is urgent. For in the epidemics of those diseases vast numbers have to be nursed in very unsatisfactory homes, and suffer from the combined evil effects of disease and environment. Even to a casual scrutiny of young city children after a serious epidemic of measles and whooping-cough, it is apparent that large numbers of them are in need of such organised nurture in the open air as only a country convalescent home can provide. The "damage-rate" is probably much greater than the death-rate.

Everywhere young children emerging from infections need attention in the post-infection period; but in the cities the numbers requiring it rise occasionally to tens of thousands. After a careful survey of the convalescent home accommodation for infection, I cannot say that the present provision in Scotland is, in any respect, adequate to the demands.

The question of reception houses for persons exposed to infection is somewhat different. In the large cities such reception houses are of immense convenience. The Baird Street Reception House in Glasgow is an admirably designed institution. Usually, hospitals

which are well appointed have sufficient observation space to make a detached reception house unnecessary. In all the larger concentrations of population the provision for the supervision of contacts is, on the whole, satisfactory. The diseases that give most trouble are smallpox, typhus (now practically extinct), and (rarely) plague. But the diphtheria contacts are, in epidemic times a considerable multitude. It is only recently that their importance has been fully realised and that more extended measures of treatment have been organised; but for this purpose reception houses are much less important than systematic examination of the contacts in the homes.

There is, however, another possibility that, so far as I know, has not been fully discussed, namely, the use of reception houses to relieve the overcrowding of houses infected by a case of pulmonary tuberculosis. As a temporary method of relief, this deserves consideration; but the power has practically never been used.

7. *Conclusion.*—These facts show that the hospital provision for infection is the most extensive provision made for any group of diseases; but they also show that the powers of the Local Authorities have not been anywhere fully developed. In particular, the demand for increased provision of convalescent homes for post-infection cases is not anywhere adequately met.

The special provision for tuberculosis I deal with separately.

CHAPTER XVIII

PROVISION FOR TUBERCULOSIS

I. Pulmonary Tuberculosis

1. *The Astor Committee's Standard of Accommodation.*—The Astor Committee was appointed by the Treasury in 1912 "to report at an early date upon the consideration of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative, and other aspects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoria or other institutions or otherwise." In the same year the Committee issued its Report. Among other recommendations, the Committee suggested that the number of sanatorium beds to be provided "in the immediate future" should be "one bed per 5000 of the population in the United Kingdom." They suggested also that there should be one hospital bed for 5000 persons. This means that the number of hospital and sanatorium beds should be at least one to 2500 of the population.

At the date when this recommendation was made, tuberculosis was not universally notifiable. The estimate was based on the death-rate and the experience of a few localities. In Scotland, even at the time when the Report was issued, the number of hospital and sanatorium beds exceeded the proportion of one to every 2500 of the population. At present, the approved beds provided in Scottish hospitals or sanatoria number about 2507 for pulmonary tuberculosis alone. This is equivalent to one bed for approximately 1900 of the population. In some places the proportion has gone as high as one per 1000 of the population. In many other places it is far below that proportion. But, in general, the proportion of one bed to 1900 of the population has been found insufficient. I speak now of the pre-war period.

The Astor Committee's standard was, of course, a minimum standard, not a maximum. It was necessarily indefinite, because it could be founded only on a very narrow experience. Since that

date, compulsory notification has been in force all over Scotland and England. The results are shown in the table of returns quoted in the last chapter. Experience has shown that a provision of one bed to 2500 of the population is much below the Scottish requirements.

Meanwhile, however, new sanatoria and new expansions of hospitals had been planned or were being built; but, with one or two exceptions, they have had to be stopped until after the war. When the institutions now planned are complete, the provision for pulmonary tuberculosis will be much more extensive than at present.

2. *Provision affecting Mothers and Children.*—The figures quoted in the chapter on maternity show how large a problem tuberculosis among mothers is. Here, however, arises a peculiar difficulty. When the father of a family breaks down with tuberculosis, he can go to a hospital or sanatorium without seriously incommoding the family; but when the mother breaks down, the housekeeping necessarily suffers. This fact tends to restrict the hospital and sanatorium treatment of mothers. When a tuberculous mother has a family of young children, the urgency of sanatorium treatment is counterbalanced by her greater difficulty in leaving home. Even before the war, the tuberculosis work of hospitals and sanatoria was far from its full development; since the war, it has been very seriously restricted. It is only now that the real magnitude of the problem is coming into public consciousness. There is a renewed tendency to favour so-called domiciliary treatment. The facts given in various sections of this Report show how futile it is to expect any large results from domiciliary treatment. It is common knowledge that the housing of Scotland is insufficient in amount and deficient in quality. To suppose, for example, that any case of illness, not to speak of advanced tuberculosis, can be effectively treated in overcrowded one-room houses or in the "black houses" of the Outer Hebrides is to insult common sense. There is no need to particularise the "back lands" of Glasgow, or the "closes" of Edinburgh, or the smoke-smothered homes of the black country. They are all too well known. Obviously, therefore, the serious work of treating tuberculosis on the large scale in hospitals, sanatoria, or work colonies has yet to come. If this were the place to labour the point, I could produce many admirable

illustrations of the splendid work done by the larger Local Authorities of town and county. But here all I need say is, *first*, that the projected accommodation will all be wanted; and *second*, that until a much larger proportion of cases is permanently provided for outside the unventilated, uncleaned, and unlighted houses of the more congested areas, no rapid drop in the notifications or deaths can be expected. On this point I have never had any delusions; for my early experience as a county and as a town medical officer of health kept me from the beginning close to the grim reality of the disease as I met it in every variety of difficult circumstance. But, at the same time, the progressive extirpation of the disease is only a matter of unremitting patience and drastic administration. The provision of hospitals and sanatoria is an important part, but only a part, of the practical problem. Housing is another important part. Feeding is still another. Occupation is still another. Food, housing, and occupation are fundamental factors in determining the resistance of the patient; but until the long arrears of bad housing, unsatisfactory feeding, and ill-conditioned labour have been wiped off, hospitals, sanatoria, and work colonies will continue to be necessary. The fundamental factors—food, housing, and occupation—affect mothers and children both directly and indirectly.

II. Provision for Non-Pulmonary Tuberculosis

3. *Gland and Bone Tuberculosis.*—Provision for pulmonary tuberculosis was the most urgent and, up to date, has received most attention. Many of the hospitals or sanatoria provide also some accommodation for non-pulmonary tuberculosis. As already pointed out, pulmonary tuberculosis does not affect a serious proportion of children under five; but with non-pulmonary tuberculosis, the case is far different. The dispensaries and sick children's hospitals receive steady streams of tuberculous children under five. It is mainly among these that the cases of gland tuberculosis, bone tuberculosis, joint tuberculosis, and abdominal tuberculosis occur. The cases are to be numbered by the thousand in Scotland alone. As the Local Authorities develop their institutions, they will extend their provision for the treatment of children. This is likely to take various forms: surgical hospitals, convalescent homes, open-air schools. In all three directions institutions are growing; but the numbers to be treated far outrun the accommodation yet avail-

able. Here, above everything, there is a chance for prevention, because at least part of the tuberculosis of bone, gland, joint, and abdomen is due to infected milk; at least part is due to direct infection from human subjects.

4. *Open-Air Schools, Play-Centres, etc.*—The steady movement among education authorities towards provision of open-air schools for physically defective children and for children below normal in nutrition is becoming an appreciable factor among preventive methods. The movement towards holiday homes is also becoming an appreciable factor. When the convalescent home movement for children affected by acute illnesses like measles, whooping-cough, diphtheria, scarlet fever, or chicken-pox is more developed, tuberculosis will have the benefit; for it is accepted that the acute infections all tend to affect tuberculosis for the worse. It may, therefore, be said generally that the holiday homes, the convalescent homes, the open-air schools, the open-air nurseries, the toddlers' playgrounds, the play-centres, the children's gardens, and all similar institutions are, in their measure, provisions against tuberculosis. When housing reform and town planning get really under weigh, our towns and cities will, as a matter of course, provide all those types of institution. Meanwhile, under the new schemes, such institutions will be developed to their full capacity, because they are good and relatively inexpensive. Let it, however, be remembered that the children to be provided for are not to be counted by ones and twos, but by tens and hundreds, even thousands.

5. *Conclusion.*—The near future will see a wide reform of housing; a more scientific system of milk collection and distribution; a rapid multiplication of small open-air play-centres, open-air schools, children's gardens, convalescent homes and holiday homes; a more intimate organisation of tuberculosis clinics, open-air hospitals, children's hospitals, and boarding-out colonies. When to these is added better provision of substitutional housekeepers, the tuberculosis of mothers and children will begin to hasten its present rate of decline.

CHAPTER XIX

PROVISION OF SICK CHILDREN'S HOSPITALS

1. *Position of the Hospitals.*—Of all institutions for the promotion of child welfare, none can exceed in beneficence the Scottish hospitals for sick children. These hospitals are not the product of to-day; they are at least one generation old—some of them at least two generations. In 1915 the Royal Edinburgh Hospital for Sick Children issued its 57th Annual Report; the Glasgow Royal Hospital for Sick Children its 33rd Report; the Royal Aberdeen Hospital for Sick Children its 39th Report; the Dundee Royal Infirmary, which includes a children's section, its 116th Report. Relatively, these institutions are old. They have led the way in the care of children. They have, it is true, been compelled to devote themselves to the serious medical and surgical cases; but, incidentally, they have prepared this generation for the great wave of enthusiasm now passing over the country. They have saved thousands of lives; they have made thousands of the disabled fit for normal life; they have maintained themselves on the highest plane of medical and surgical skill. They are to-day a rallying centre, the ultimate consultation point in the child-welfare schemes. No language can be too strong to characterise the work those hospitals have done. They are among the finest flowers of voluntary beneficence.

Like all institutions for general sickness, the sick children's hospitals of Scotland had to rely entirely on voluntary funds. Nominally, they restrict themselves to the care of the poor. In this, they are in the same position as the royal infirmaries and other non-paying voluntary hospitals. I have said "nominally," because it is impossible for institutions of this magnitude and importance to restrict themselves absolutely to the service of the poor or destitute. As public institutions they are centres of the highest professional knowledge and skill. They, therefore, necessarily attract all those that need advice, whether the poor or the relatively well-off. Everyone familiar with the working of voluntary hospitals

knows that the rigid restriction of hospitals to the service of the poor is impossible.

But the social lesson from this is obvious: when a demand is so strong that it cannot be resisted, the time is long overdue for new organisation. That is what has happened to the sick children's hospitals. They may now become elements in the municipal or county schemes for infant welfare. They may be subsidised from rates and imperial funds. This is a very important new departure. But the schemes of infant welfare now under discussion show that the principle of the departure has been readily accepted by some of the institutions concerned. It would be a great misfortune if it were not so. One purpose of the new statutory powers is to make the Health Authority the meeting-ground, the correlating agency, for all relevant forms of voluntary endeavour. An infant-welfare scheme without a hospital for sick children is like an arch without a keystone.

2. *Royal Edinburgh Hospital for Sick Children.*—This institution is too well known to need much detailed description. The following notes by Dr Ernest Watt and Miss Ireland are enough :—

Classes of Patients admitted.—Children from a day old to twelve years are admitted. They come from all parts of Scotland and England. "None can be admitted into the hospital as a patient who is suffering from infectious disease, or who, upon examination by the medical officers, does not appear to require hospital treatment."

The following regulation has been made with regard to this: "If, at any time, all the applicants proper for admission cannot be received into the hospital at once, the selection of those who are to be admitted shall be regulated by a regard to the relative urgency and severity of their ailments."

It was stated that there is always a long list of surgical cases waiting for admission.

No private case has ever been admitted.

Number of Beds.—There is accommodation for 119 children. Out of this number there is a daily average of twenty bottle-fed infants. These are generally in the medical wards. When breast-fed babies are in the surgical wards, their mothers may attend every three hours during the day to feed them. There is no accommodation for these mothers. About half the number of children in a ward are under two years, and an attempt is made not to exceed this.

All milk given is sterilised. The bottles are shaped like an ordinary medicine bottle, and have short rubber teats. The latter are kept separately in labelled jugs of water when not in use. Sterilisation of milk is undertaken not merely as a safeguard against tubercle, but also to protect the children from the ordinary milk-borne infections, *i.e.* diarrhœa, etc.

Out-Patient Department.—In connection with the hospital is an out-patient department or dispensary, open daily (except Sunday) from 11 a.m. to 12 noon. An honorary staff carries on the work here.

The accommodation, which is devoted to medical work, consists of, on the ground floor :—Consulting room, dentists' room, two isolation and two waiting rooms. The consulting room is lit by three large windows, and contains two sinks, an examination table, a doctor's table, etc. One of the waiting rooms is small, and is lighted by two windows ; the other waiting room has seating accommodation for 80–100 adults.

In the main vestibule of the building are a slunge sink and a gas ring. These are used when tea is served to waiting patients at a small charge. A paid assistant serves this, but her fee is covered by the profit on the catering. A printed bill states the charges, viz. "Tea, 1d. ; Milk, ½d. and 1d." Milk given to infants is boiled.

PROVISION OF SICK CHILDREN'S HOSPITALS

3. *Glasgow Royal Hospital for Sick Children.*—This splendid new hospital was opened in 1914. By the kindness of Mr Robert Barclay, secretary, I am able to present five photographs, including a general view of the hospital, a representative ward, an open-air ward, related dispensary in Graham Street, and the country branch at Drumchapel. These photographs are enough to show the size of the hospital and to suggest the wide range of its work (see illustrations, pp. xix to xxi).

4. *Dundee Infirmary and the Malnutrition Hospital.*—In Dundee sick children are accommodated in the infirmary. The following notes show the extent of the accommodation. Recently, the infirmary took over the Sidlaw Sanatorium and uses it for the care of tuberculous children. It would be difficult to name any site in Scotland better fitted for its purpose.

Dundee Infirmary, Children's Department.—

Accommodation, 76 cots:—
One large ward for medical cases, containing 30 cots.
One large ward for surgical cases, containing 34 cots.
In general male medical wards, 2 cots.
In general female medical wards, 2 cots.
In general male surgical wards, 3 cots.
In general female surgical wards, 1 cot.
In eye wards, 1 cot in the male and 1 in the female ward.
In ear and throat department, 1 cot in the male and 1 in the female ward.

The children's wards are on the ground floor, and have a sunny exposure. Doors open direct from the wards on to the garden ground, and in dry weather the cots are wheeled out into the open air and sunshine.

Children eligible for the children's wards must be under ten years of age.

Statistics showing the proportion of children under five years of age, and the proportion over five years of age were not available.

The Hospital for Malnutrition Infants, Dundee.—This was established in February 1916 by lady members of Dundee Social Union, after funds had been obtained sufficient to cover estimated expenses for three years. All the workers have greatly felt the need of an institution of this character. It accepts cases not usually admitted to general or children's hospitals.

The house is in Windsor Street, Perth Road, The ground slopes towards the south, and there is an eastern and western outlook. There is a small garden behind. A need is felt for garden ground on which the infants could be placed.

Accommodation is provided for 20 children under five years of age. At the time of our visit all beds were occupied: there were 12 children under one year of age in the hospital.

The matron states that wonderful results have been obtained already with babies under their care. The infants are fed on milk, barley water, and special food chiefly. The total amount of milk consumed is about 7 pints per day, and necessary arrangements have been provided for sterilising and chilling the milk.

The Staff: Visiting—Four women doctors in rotation of three months each. *Resident*—matron, five nurses, three probationers; a domestic staff of two maids and a washerwoman.

The Accommodation.—House of two storeys and a basement. *On the ground floor* are the dining-room and a bed-sitting room. *On the first floor* are three wards containing 11, 5, and 4 cots respectively. Two wards have a western and one an eastern exposure. They are well lighted by windows of the sash type, and are heated by open fires, and the

floors are covered with linoleum. There is central heating in the entrance hall and staircases. *In the basement* there are the kitchens, a drying-room for the babies' clothes, and a milk-room.

5. *Royal Aberdeen Hospital for Sick Children.*—This hospital was organised over a generation ago by the late Miss Rachel Lumsden, who afterwards became superintendent of the Aberdeen Royal Infirmary. The demands have far outgrown the accommodation, and the Directors have decided to build a new hospital. Meanwhile, for safety, the patients have been accommodated in a building further inland. The following notes show the present position :—

> New premises are to be erected at Ashley. The prospective building will have 100 beds, but the matron stated that when the hospital was conducted in the premises at Castle Terrace there generally was a waiting list of over 50 patients. There are to be two open-air wards ; two wards for outdoor patients recovering from operations, and two wards for similar indoor patients.
>
> At Kepplestone there are 72 beds for children, while in the original premises there were 80 beds. Children of all ages up to twelve years are admitted.
>
> In the grounds, at some distance from the main building, is an open-air shelter generally used for tuberculous children.
>
> There is no accommodation for infants, and practically no cases of the class of the malnutrition baby received.

6. *Conclusion.*—As with so many of the institutions mentioned in this Report, so with the sick children's hospitals ; inquiry always discovers that the demand for accommodation exceeds the supply. It is certain that, as the infant welfare schemes develop, the numbers of children referred for treatment, both indoor and outdoor, will steadily increase. This has been the uniform experience of the school clinics. When those clinics were first suggested it was said, even by persons connected with the sick children's hospitals, that the hospitals were doing all the work necessary for the medical care of children. The statement only showed how illusory the experience of special institutions may be. When the facts set forth in the chapter on The General Case for the Medical Supervision of the Pre-school Child were systematically put forward year after year, the attitude even of the medical specialists began to change. It is the same to-day with the infant clinics, the infant consultations, and the other institutions for young children. The transit from an old system to a new system, from an old formation to a new formation, is always resisted by somebody as unnecessary. This is the bias of specialism everywhere. But the young children are now coming into their own. They are to receive systematic medical attention while they are yet well and the evil days come not. They are no longer to be considered

as needing attention only when they are near death's door. This fallacy of the medical mind is rapidly passing away. When the sick children's hospitals take their correct place in the child welfare schemes, they will be a focus for many streams of energy, a consultation centre for diseases of every grade of severity, a training ground in the prevention as well as in the treatment of sickness.

CHAPTER XX

PROVISION OF HOSPITAL CONVALESCENT HOMES

1. *The Functions of the Convalescent Home.*—The convalescent home is a convenient expansion for a sick children's hospital. It serves as a relief when the waiting list goes up; it serves as a hospital for cases that have outlived the acute stages of their disease; it serves as a recuperative home for the imperfectly recovered. It acts as an intermediary stage in the return from hospital to ordinary life. It does for children emerging from general sickness what the convalescent wards of a fully equipped infectious disease hospital do for children emerging from the acute infections. So convenient is the convalescent home that it has become a normal expansion of hospitals both for children and for adults. Such convalescent homes may conveniently be called hospital convalescent homes. This distinguishes them from the other types of convalescent home where children are admitted directly, not after passing through a hospital.

2. *Provision in Edinburgh.*—The Edinburgh Sick Children's Hospital supports a convalescent home at Gullane. The home has accommodation for twenty-one cases. The ward sister interviews the parents at the Sick Children's Hospital, she gets such information as is available about the conditions at home, and, guided by this and by the opinions of the visiting physicians and surgeons, she determines the suitability of the case for admission to the convalescent home.

> In the course of the year, 175 children have been sent to the Convalescent Home at Gullane, of whom 104 were medical and 71 surgical cases. The twenty-four cots in the home have been fully occupied, and in view of the increase in the daily average number of patients in the hospital during the year, the home has proved a specially valuable adjunct (*Report*, 1915).

> The Edinburgh Medical Missionary Society maintains a convalescent home for women and children at Hawthornbrae, Duddingston.

3. *Provision in Glasgow.*—The convalescent home associated with the Royal Hospital for Sick Children, Glasgow, is situated at Drumchapel. It is really a country branch of the hospital. It is shown in the Glasgow series of photographs (illustrations, p. xx).

PROVISION OF HOSPITAL CONVALESCENT HOMES

STATEMENT SHOWING THE GROWTH IN THE WORK BEING DONE IN THE HOSPITAL, DISPENSARY, AND COUNTRY BRANCH

Year.	Old Hospital opened 20th Dec. 1882. New Hospital opened 7th July 1914.	Dispensary or Out-Patients' Department opened 1st October 1888.		Country Branch opened 9th June 1903.
	Cases treated.	Cases treated.	Total Attendances.	Cases treated.
1883	260	..	..	..
1884	388	..	..	..
1885	448	..	..	..
1886	512	..	..	..
1887	525	..	..	..
1888	608	532	1,564	..
1889	634	4,167	16,206	..
1890	615	5,128	18,751	..
1891	552	5,249	19,109	..
1892	654	5,728	20,906	..
1893	670	6,700	25,190	..
1894	665	6,973	26,162	..
1895	707	6,820	24,002	..
1896	779	6,449	23,205	..
1897	768	6,402	23,430	..
1898	811	7,144	27,244	..
1899	775	7,128	24,915	..
1900	786	7,836	27,602	..
1901	810	8,247	28,990	..
1902	917	9,109	32,246	..
1903	1069	9,866	36,212	91
1904	1010	11,532	45,048	110
1905	1201	11,108	44,262	107
1906	1150	11,648	42,466	132
1907	1089	10,829	42,302	122
1908	1078	13,606	50,776	97
1909	1012	13,387	51,594	87
1910	997	14,166	46,453	121
1911	1095	14,557	52,753	134
1912	1208	12,745	48,970	134
1913	1315	12,905	47,866	120
1914	1374	13,391	43,935	149
1915	2231	12,649	47,140	200

Work done in the Country Branch.

At the Country Branch at Drumchapel many more than the regulation number of 26 cots could easily have been utilised. In all 200 patients were treated, as compared with 144 the previous year, the average daily number under treatment being 25·2, and the average residence in the Branch of patients discharged being 58·4 days. The Branch is presently being used for surgical cases. The treatment of certain classes of these cases is necessarily prolonged, and several patients in the Branch have been in residence nearly a year. This circumstance materially affects the number of cases treated, and increases the average period of residence and the cost per patient.

The ordinary expenditure of the Country Branch was £1223, 16s. 8d., while last year it was £1424, 15s. 8½d. The following table shows the cost of treatment as compared with that of the previous year:—

Average.	1914.	1915.
Daily expenditure	£3 18 0·98	£3 7 0·16
Daily cost of each patient	0 2 7·76	0 2 7·9
Total cost of each patient discharged	14 1 0·91	7 15 2·96
Cost of each occupied cot for the year	48 6 0·4	48 10 3·5

Note.—The decrease in the third of the above averages is due to the larger number treated in 1915 and the material fall in the average residence of the patients discharged as above mentioned.

Work Done at the Dispensary.

The following table shows the work done at the Dispensary :—

	1914.	1915.
Medical cases	9,277	7,679
Surgical cases	4,114	4,970
Total new cases	13,391	12,649
Subsequent attendances	30,544	34,491
Total attendances	43,935	47,140

Of the cases treated 3525 were under one year, and 4710 were over one and under four years of age, as compared with 3448 and 4307 respectively last year.

The maximum number of new cases in any one month was 1744 in October.

4. *Provision in Dundee.*—The Dundee Convalescent Home at Barnhill admits patients from the Royal Infirmary and from the general public. In 1914, 1195 cases were admitted—362 from the Royal Infirmary, 833 from the general public. But how many of these were children under five we have been unable to ascertain. This home is exceptional, in that it admits cases both from the Infirmary and direct from the general public.

5. *Provision in Aberdeen.*—The Eidda Home, which is maintained chiefly by one interested person, and is medically supervised gratuitously, has been found of great value. The Royal Hospital for Sick Children, Aberdeen, uses it as a convalescent home. In the year 1915 some twenty-seven cases were sent from the Sick Children's Hospital to the Home.

6. *Other Convalescent Homes.*—We have abundant information as to convalescent homes associated with general hospitals and dispensaries ; but as it is not possible to say how far these are utilised for the care of mothers or children, no details need here be given. No doubt mothers, and occasionally children, share in the benefits of convalescent homes associated with the large hospitals.

The East Park Home for Infirm Children, Maryhill, Glasgow, is a good type of independent convalescent home. "The cots, 130 in

number, have been continuously occupied throughout the year (1915), and there are always a number on the list waiting for admission."

7. *Conclusion.*—As already indicated, the sick children's hospitals usually provide only for the children of necessitous parents. It follows that the convalescent homes admit, as a rule, only necessitous children. Even for these, one cannot but infer from the annual reports that the accommodation is too limited. All the hospitals have waiting lists. From time to time they are all pressed for accommodation. The mere fact that cases for the convalescent homes have to be carefully selected, after some investigation of family conditions, shows that, like the hospitals themselves, the convalescent homes are all too few in number and too limited in accommodation. Now that the rates are available for the hospital treatment of all children without regard to economic conditions, while imperial grants are available for the hospital treatment of children under one, we may expect, first, much greater pressure on the sick children's hospitals and the convalescent homes and, second, an increased demand for convalescent accommodation. Probably the demand will compel a specialisation both of hospitals or hospital departments and of convalescent homes.

CHAPTER XXI

PROVISION OF HOMES FOR CRIPPLE AND INVALID CHILDREN

1. *The Function of the Homes for Cripples.*—The homes for cripple children fulfil a function not discharged by any other home. They are not strictly hospitals ; but they provide for feeble, ailing, and disabled children. In many cases the children suffer from tuberculosis or some other chronic ailments, and tuberculosis accounts for much of the disablement. On the other hand, the homes act more or less also as schools of industry, where the permanent cripple is educated on the lines of his capacity. Occasionally the poorhouses have to provide for cases of this order, and may make arrangements with cripple homes for the accommodation of cripple children. But, as a rule, the homes are voluntary institutions, sometimes admitting for payment, usually admitting free. The special schools provided by the School Boards provide in the day-time for many of the cripple children of the school ages ; but, so far as I have been able to discover, all the residential accommodation for cripple children, except the Poor Law provision, is voluntary. For cripple children under five, the new powers will enable the Health Authority to subsidise approved voluntary institutions. In the homes visited the children over five were much more numerous than the children under five. This may be partly because the younger children need more attention, partly because the urgency of education does not become manifest until after five years of age.

2. *Provision in Edinburgh.*—The following notes by Dr Mary Menzies indicate the kind of work done by these institutions :—

(1) *Cripple Children's Home* (*Mansionhouse Road, founded* 1870)

The chief desire of the committee is to nurse children aged from three to twelve years that are considered by the medical officers capable of cure or improvement, and of benefiting by the surgical treatment and the comforts provided in the home. Children that are eligible for Poor Law or incurable hospitals are not accepted.

A payment of £10 per annum or 4s. per week is asked from the parents ; in some cases the fee is remitted, and sometimes part payment is accepted. There are six endowed free beds, the annual cost of these being £20 per bed. When the house was opened £95 was collected, partly through the well-known Dr John Brown of *Rab and his Friends.*

HOMES FOR CRIPPLE AND INVALID CHILDREN

The institution was founded by means of endowments, and is supported by means of voluntary contributions.

There are 28 beds, and during the year 42 children were under treatment. Voluntary teachers attend twice a week to give the children some education.

(2) *The Edinburgh Cripple and Invalid Children's Aid Society*

The Society has sub-committees for its various spheres of activity, which are :—

(1) A home for cripple girls : ages three to eighteen.
(2) A home for cripple boys : ages nine to fourteen.
(3) The home visitation of cripples and invalids.

During the past year 135 new cases were added to the register.

(4) The provision of :—

(*a*) Spinal carriages, of which the association owns 85, which are in constant use and are hired out at a charge of 2d. per week. During the summer-time the supply cannot meet the demand.
(*b*) Artificial limbs, splints, frames, surgical boots, part of the cost of which is repaid by the parents in small instalments.
(*c*) Grants towards board maintenance of children sent to the Mansionhouse Road home for prolonged treatment.
(*d*) Extra medicine, coal, clothing, and nourishment for special cases.
(*e*) Parlour meetings, religious services.
(*f*) Girls' and boys' clubs.
(*g*) Workshops, *e.g.* boot repairing, tailoring, and dressmaking.

3. *Provision in Glasgow.*—The Glasgow Children's Fresh-Air Fortnight and Cripple Children's League (Glasgow Evangelistic Association) maintains a large number of institutions and agencies. These include Glasgow Poor Children's Fresh-Air Fortnight ; Biggart Memorial Hospital Home, Prestwick ; Ashgrove Home for Tuberculosis Cases ; Children's Convalescent Home, Shandon ; Glasgow Cripple Children's League ; Weary Workers' Rest, Dunoon ; Mothers' and Babies' Rest, Saltcoats ; Poor Children's Day in the Country, etc. In the Report for 1914, the League gives an account of the numerous homes, of which there are some fourteen, with a total accommodation of about 900 beds. Of these homes, some are permanently open ; others are used in the season for fresh-air fortnights. The fact that in the year ending 31st December 1914 the outlays amounted to nearly £12,000 is a sufficient indication of the large operations undertaken by this League. The homes are not confined to children under five ; but, from the information given in the Reports, obviously a large number of children under five are admitted temporarily or kept in residence. From the start in 1899, the Cripple League alone has dealt with 4053 children. In 1904 the total number under their care was 1231, of whom 665 were under fourteen years of age. How many of these were under five we have no means of determining.

4. *Provision in Dundee.*—The Dundee Invalid and Cripple

Children's Aid Association maintains a Holiday Home for cripple and invalid children near Auchterhouse.

During the season 214 children had a holiday at the Home, making a total of 408 children since the opening day in April 1914. Besides children from the register of the Association, 30 children from the Social Union (13 the children of soldiers or sailors), and quite a number of children recommended by schoolmasters, visitors, and other friends interested, benefited by a holiday at the Home during the year. The following statement gives the length of stay enjoyed by the children in 1915 :—

17	children during one week.
154	,, ,, two weeks.
7	,, ,, three weeks.
29	,, ,, four weeks.
3	,, ,, six weeks.
1	,, ,, seven weeks.
1	,, ,, eleven weeks.
2	permanently resident.
214	

The King Street Home for Incurables, Dundee, a well-appointed institution, had, at the date of visit, eight children in residence, two of them under five.

5. *Conclusion.*—Many of the conditions included under the term " cripple " are irremediable ; but many are not. In the Dunfermline series of photographs there is a view of the Remedial Gymnasium, with illustrations of the physical methods applicable to various types of deformity. (See illustrations, Dunfermline (2), p. viii.)

CHAPTER XXII

PROVISION OF HOLIDAY HOMES: FRESH-AIR FORTNIGHT, RECUPERATIVE SCHOOLS, REST HOMES

1. *Origin of the Holiday Home.*—In the eighties of last century the Fresh-Air Fortnight movement acquired considerable momentum in Scotland. The school games, the school excursions, the school and Sunday-school picnics, have all been familiar for two or three generations. It is in them that the Fresh-Air Fortnight has its roots. The Glasgow Poor Children's Fresh-Air Fortnight Homes were begun in 1885. The Edinburgh Children's Holiday Fund was inaugurated in 1887. The Leith Holiday Home scheme began in 1893. There are many other organisations that promote the same kind of work. At first the Fresh-Air Fortnight Societies used such country houses as were available in the holiday season. This they still continue to do in part. But experience soon showed the need for permanent houses under the control of the Societies. This is proved from the records of the Edinburgh, Glasgow, and Leith Societies. The Edinburgh Fund ultimately ended in the establishing of the Children's Village at Humbie. The Glasgow Fresh-Air Fortnight organisations ended in the establishment of homes in various parts of Scotland. Of these homes, several are named in the last chapter.

Experience showed also the need for extending the time of residence. To thousands of city children a fortnight in the country was a longer holiday than many of the parents ever enjoyed all at once. But, as the selective scrutiny grew more exacting, the need for a longer period of recuperation became more obvious. The fortnight is still a convenient unit; but none of the homes is tied strictly to two weeks. On cause shown, they extend the period. This is one important development.

But there is a second development, equally important. As the medical inspection of school children revealed the large number of children "under par," the Holiday Home was transfigured into a

recuperative school. This is peculiarly well illustrated below in the case of the Children's Village at Humbie.

There is now a further development in prospect : the recuperative home for children in impaired health will now be widened to include children under five.

There is yet another outgrowth of the Holiday Home : on a small scale, it has been specialised as a Home for Tired Mothers. Both in the east and in the west of Scotland, there is some provision for tired mothers. The provision is as yet small in amount ; but it rests on the conviction that the overburdened or enfeebled mother needs some form of physiological relief not otherwise open to her.

In all these specialisations of the Holiday Home we see the comment of experience on the overstressed city life and the unsatisfactory city house. Everywhere it is city children that make the first demand on the Holiday Home organisations. With every improvement in the methods of medical examination, this demand is more and more justified. To-day in the schemes of maternity and child welfare, the use of the convalescent home, the recuperative child garden, the Holiday Home and institutions of this order is, for the first time, receiving the systematic attention of the great Health Authorities. For school children, as the three illustrations given below prove, the need of the recuperative school has been formally recognised. The results are everywhere gratifying. It is only now that the same need is revealing itself among the pre-school children. To the workers among children, both of the school and of the pre-school ages, the necessity for some counteractive to the over-exacting environment of the city has never been doubtful. The schemes of child welfare, it is hoped, will provide agencies to secure systematically for children of the pre-school ages something of the intensive nurture that is periodically needed to preserve the right rate of growth in the growing organism. The city child grows old too fast. He needs frequent breaks for rejuvenescence. It is for this that the Holiday Home is wanted.

2. *The Children's Village, Humbie.*—Through the kindness of the Edinburgh School Board, I am able to produce some photographs of the Humbie Village and of the individual homes that form it. This village is a fine example of the evolution of ideas. It has grown out of the Edinburgh Children's Holiday Fund. The secretary,

PROVISION OF HOLIDAY HOMES

Mrs Stirling Boyd, has never lost an opportunity of pushing forward fresh ideas. For many years she has systematically invited all persons interested in the health and education of children to support the development of the village. In the 29th Annual Report, published in 1915, it is stated that within the year over 900 children had been received at the village. But before giving a description of the village administration, I think it well to indicate how the school built there many years ago has now come to be an integral part of the educational system of the Edinburgh School Board. In an article on "Our Special Schools," published in the *Blue Blanket*, an Edinburgh civic review, in 1912, Mrs Leslie Mackenzie wrote as follows :—

"Of Open-air Schools strictly so called, of Hospital Schools, Sanatorium Schools, the Edinburgh School Board as yet possesses none. At the Victoria Hospital for Consumption, consumptive children are educated under sanatorium conditions, but in this the School Board has no part. The nearest approach to these types of school is the Holiday Home School at Humbie. This is a new departure in health schools so far as the city of Edinburgh is concerned, and it is a departure of the first magnitude and interest. For years the enthusiastic and warm-hearted promoters of the Holiday Home movement have looked for some official help towards the education of their children. They will henceforward receive it. The School Board have agreed to pay for twenty or thirty children at the beautiful cottage school at Humbie. There is too little space left to tell those that have not seen the place what the holiday village out there is like, with its pretty red-roofed cottages hanging on the hill-face and inviting the visits of the whole countryside. Humbie is a well-known name in Edinburgh, and a half-holiday spent in an inspection of the infant-peopled houses will be its own reward. The School Board is placing a teacher there, and children will be selected from those 'below par,' who are just the children that need a few weeks of recuperative educational play to fit them once more for the stresses of city life. The experiment begins with twenty or thirty, but it is an experiment so much in the spirit of the time that it will, here as elsewhere, attract to itself the kindly interest and goodwill of those that study more and more intensively the needs of Edinburgh children. It is, so far as I am aware, the first time that Edinburgh School Board has established a school outside the city boundaries. That is a minor matter ; but I feel certain that the Edinburgh School Board, which, for this purpose, is the embodiment of the civic mind, will never turn back from an idea so well justified by the social facts. The school is only just about to be opened, and I need give no details about it here. Further developments on the same lines are only a matter of time, and we shall not be much older before we see the long list of special schools extended, until even the ordinary citizen believes that the health of his child is the beginning of wisdom."

This was the first recognition of the village by a public authority. For the last five years the Edinburgh School Board has kept this

school open. The other work of the village has proceeded as usual; but the school has become a typical recovery school, and forms a part of the mechanism for the systematic treatment of school children now required of School Boards. Among the special schools of the Edinburgh School Board, none is doing better work than the recovery school at Humbie Village.

Humbie Holiday Village

(*Notes of visit by Dr Mary Menzies, Mrs Leslie Mackenzie, and Miss Ireland*)

This is under the management of the Edinburgh Children's Holiday Fund Committee. The objects of the fund are to provide a fortnight's holiday during summer for poor children, by boarding them with cottagers in the country, and to send poor children at any time during the year for a fortnight or longer to the Children's Village at Humbie. The cost of the upkeep, etc., of the Children's Village is about £1000 per annum.

In 1902 over 11 acres of ground were purchased, and in 1903 two cottages, each capable of accommodating about twenty children, were erected. Now there are three cottages, a matron's house, a laundry, a disinfecting-house, a lodge, a stable, and an open-air school. In the grounds are also four swings, two see-saws, parallel bars, two sand-pits, a brick play-shed, seats, hen-houses, and a drinking-well. A shallow stream flows at the bottom of the slope on which the cottages are built. This slope has a western exposure.

The children are sent to the village by two agencies: Edinburgh School Board and Edinburgh Children's Holiday Fund. Edinburgh School Board pays 7s. per week per child to the Holiday Fund for twenty children at one time that the School Medical Officer selects as being likely to benefit by a stay of from two weeks to three months.

The Edinburgh Children's Holiday Fund, upon application made to the committee, sends children for a two weeks' stay in summer and at Easter, and for a longer period at other times of the year. There is accommodation for forty such children.

The parents are sometimes sorry to let the children away to the village, and, occasionally, out of loneliness try to get them home again. The children's view is different. One boy of thirteen, who has spent a short time at the village, is found waiting at the Waverley Station almost every Friday and Saturday in the hope that the matron or the school teacher from Humbie will ask him to return with her.

Every child is bathed on admission and is dressed in clothes belonging to the village. The children's clothes are disinfected and returned with the child. Many gifts of clothing are received. On Sundays and special occasions the girls wear a uniform of striped dress, blue jersey and straw hats in summer, or red cloaks and hoods in winter. Most of this clothing is of washable material.

There has been very little sickness in the village since its commencement. Many of the children are convalescing after leaving a fever hospital, or have been selected because they were suffering from swollen glands, etc. The broken chilblain occurring in the winter-time is the most common complaint among the children, and the matron also said that, at all times, the heads require a great deal of attention.

Cod-liver oil is supplied by the School Board for the school children. All the children are given this three times a day in winter. At present two children, aged three and four years, are given a switched egg in the forenoon.

At 11 a.m. each day, in the dispensary, the matron sees any child requiring medical attention, and applies any dressings required. A local doctor calls when sent for. Dr Hally Meikle, Edinburgh School Medical Officer, generally inspects the school children once in six weeks.

The school mistress is of opinion that the longer the children remain in the village, the more they seem to improve in intelligence. She is in favour of a stay of not less than six weeks. She measures the children on arrival and departure, and weighs them each week. Records of this are kept, and, on an average, each child gains 1 lb. per week.

The premises are sprayed with formalin at least four times in the year.

Diet.—The children rise at 7.30 a.m., have breakfast of porridge and milk, followed by bread and tea, coffee, or cocoa, on alternate days. A "piece" is given in the forenoon, and the little ones sleep after this. Dinner is at 12.30 p.m., and consists of meat or fish and potatoes, or soup and potatoes, vegetables, and milk pudding or dumpling. No soup is given in summer. The children are given "as much milk as they will drink." For tea,

they get bread and jam, syrup or margarine or treacle, with weak tea. At 7.30 they have a half slice of bread and jam, and then go to bed. Eggs are given at breakfast-time to the children that refuse porridge. For the first day or two many of the children refuse the food.

School.—School hours are not fixed, but generally are from 9 a.m. till 12 p.m., and from 1.30 p.m. till 3 p.m. The afternoon hours are devoted to singing and games. On wet days the children ask to remain in school after hours.

Staff.—The Matron buys all food and other supplies and allots a certain proportion to each "house mother." She has charge of the children except, during school hours, of those that attend school. She arranges the weekly menu, which is the same in the three cottages; superintends the "house mothers'" work; gives any treatment necessary, such as cleaning heads, syringing ears, bandaging sores, etc.; and takes the children for walks.

Each cottage is under the charge of a "house mother," who has a girl of about fifteen to help her. These "house mothers" are usually young women (sometimes with families), who get a salary of from 30s. to 33s. per month. They do all the house-work, cooking, washing of flannels and mending for the children in their particular houses.

The School Mistress is a certificated teacher with a salary from Edinburgh School Board. She holds the appointment for one year, and is responsible during school hours only for the children sent by the Board's Medical Officer. The idea was that the teacher needed a relative rest and change from town school and was sent to Humbie open-air school until she was "fit" again, when another teacher in need of similar treatment was sent out. There is no fixed period of residence for either teacher or children. Rule, if any, is doctor's orders.

The school is the gift of the St George's Holiday House Association. It has one school-room with covered wood verandah, separated by folding doors, open to the west, and there are windows on the eastern side. There are twenty tables and chairs of different sizes, blackboard, maps, a coal-fire with guard, oil lamps, pictures, piano, bookcases, etc. There is also the teacher's private room, in which is kept, among other things, the weighing-machine and record books. In the passage the children have clothes pegs. Lavatory accommodation is provided. On an outside wall is a drinking-well.

Cottages.—The matron's cottage is the largest building in the village. It is the administrative centre and is equipped accordingly.

The Holiday Fund's cottages are named, Harmony, Park, and Ravelstone respectively. Two of these have accommodation for twenty children, and the other holds fifteen children.

During the holidays the school-room is used as a play-room. Special holiday teachers from Edinburgh come at these times in order to help with the children. The children have facilities for cricket, football, and tennis. An everlasting source of amusement is the donkey kept for the children.

The gardener has a horse that is used for fetching the children to and from the station.

Children gain rapidly during the first week, and continue to gain for the two succeeding weeks. Although there are a few big gains in weight, about 5 lbs. during the first three weeks seems to be about the average. During the rest of their stay the increase in height and weight progresses normally. (See illustrations: Humbie Village, (1), (2), (3), pp. vi, vii).

3. *Provision in Glasgow.*—The Glasgow Poor Children's Fresh-Air Fortnight and Cripple Children's League maintain, as we stated in the last two chapters, a large number of holiday homes. These are not sharply marked off from the convalescent homes and cripples homes. In fact, the one so shades into the other that it is impossible to say when they should be called "convalescent" or merely "holiday."

TYPES OF CONVALESCENT HOMES ON THE FIRTH OF CLYDE

(*Note by Dr Ernest Watt*)

(1) Agnes Millar Wilson, Shandon.

(2) Ballikinrain, Gareloch, Row.

These may be described together. They are situated on the east side of the Gareloch, with a delightful exposure to the W.S.W. Prior to the war they were used as convalescent

homes by the Glasgow Poor Children's Fresh-Air Fortnight and Cripple Children's League, and, originally large self-contained villas in private occupancy, they have been in use for the above purpose for about twenty-four years. The Agnes Millar Wilson Home was presented to the "League" and normally accommodated 801 "fresh-air fortnight" children. In connection with it there are about 4 acres of beautiful garden. Ballikinrain accommodated only 60, and its garden is not quite so spacious. In connection with both there are playgrounds where the children can amuse themselves in unfavourable weather. Prior to the war only children aged from five to fifteen years were admitted. Since the Military Authorities acquired Stobhill, Glasgow Parish Council, under an agreement with the "League," have sent younger children. Thus, at time of visit, of the 44 in residence in the Agnes Millar Wilson Home, 4 were under six months; 14 were under three years, and several others were between that age and five. In the Ballikinrain Home, the majority also of the 26 in residence were under five years of age.

The many other convalescent homes on the Clyde must, from time to time, serve in varying degrees, as holiday homes.

The Glasgow and West of Scotland Convalescent Homes Society, Dunoon, was instituted in 1869. The inmates of the Homes are of all ages. In the year ending 31st December 1914, 130 children under five were admitted.

It is quite impossible to give an exhaustive statement of the convalescent homes in the west of Scotland. From the annual reports, and from the notes of the places specially visited, we find that the large number of homes under the various societies are well appointed and occupy good situations. Some are small, some are simply adapted villas, others are large institutions equipped after the manner of hospitals. In one or two instances mothers are specially provided for.

4. *Provision in Dundee.*—The Dundee Social Union maintains five Holiday Homes. The ages of the children admitted are not fully stated; but some children under five are always included among those selected. In the Children's Home at Pitlochry, boys from four to ten years of age and girls from four to fourteen are eligible. The Executive Committee reserve the right to admit special cases. The children are kept a fortnight or longer if necessary, the duration of the holiday to be decided by the consulting physician and matron and sanctioned by the secretary or member of executive appointed by her. In the event of a child being kept longer than six weeks, the Executive Committee must be consulted. The expenditure for the year 1915 was £338.

The Holiday Home at Newport is an independent voluntary institution, and is largely used by the Dundee School Board, more especially in the summer holiday season, when there is usually a waiting list.

5. *Provision in Aberdeen.*—The Aberdeen Children's Fresh-Air Fortnight and Ailing Home at Linmoor, Deeside, is used by the Aberdeen School Board and other agencies. The Association provides a permanent establishment for children in failing health. It provides also a short holiday in the country in midsummer. But children needing hospital treatment are not admitted. In 1914, 529 children were admitted, their stay varying from two to twelve weeks.

6. *Carnegie Dunfermline Trust.*—Last year the Carnegie Dunfermline Trust opened a Holiday Home in the west of Fife. We have not asked for details ; but I understand that arrangements are in progress for establishing a permanent home for selected Dunfermline children.

7. *Defective Methods of Selection.*—In their visits to various Holiday Homes, the investigators noted that the children admitted have to be selected from a special standpoint. It is frequently the case that children in great need of special attention in a convalescent home fail to obtain admission, because from the nature of their condition they would require more nursing attention or more medical attention than the home can provide. It has thus been observed that considerable numbers of ailing children are automatically excluded from the benefits of all children's institutions. This is one of the points that the new child welfare schemes will have to consider. On their present footing, the Holiday Homes have every right to select the children that can be properly nursed or superintended in the special institutions ; but the community as a whole cannot act on this principle any more than the School Boards can select which children they shall educate. Institutions, where they are necessary at all, must be adapted to the needs of the various classes of children. The arrangements open to the Local Authorities do not entitle them to make any restriction or selection on grounds either of disease or of poverty. An approved scheme provides for all varieties of children.

8. *Effects of the War.*—In the annual reports we observe that, since the war began, several of the institutions have been induced to admit younger children. Of this, the explanations are simple. It is due partly to the absence of the fathers and the greater labour

falling on the mothers at home, partly to the increased numbers of married women now engaged in special industries or war work. In some cases the admission of young children was due to the simple fact that they were children of widowers that had been called up for military service.

9. *Conclusion.*—A general survey of the reports and notes justifies the statement, first, that a very large number of the ailing poor of the city pass through those homes; but, second, that the methods of securing admission are left mainly to the somewhat unorganised operations of particular societies. Many children are admitted, but I can find no evidence to show that all the pre-school children in need of treatment have, as yet, any certainty of receiving it, either in the hospitals or in the homes, whether convalescent homes or holiday homes. It follows that, however much those admirable homes are able to accomplish, they necessarily leave a great deal still to be done by the Local Authorities under their maternity and child-welfare schemes.

CHAPTER XXIII

MISCELLANEOUS INSTITUTIONS FOR CHILDREN

1. *Orphanages.*—We have obtained information of several large orphanages. The orphanages are too well known to need more than a reference. Their functions are indicated in various parts of this Report.

There are well-known orphanages, such as Smyllum and Aberlour. We have information of some others, which, though they provide on occasion for orphan children, are used mainly as refuges, or homes for neglected or ill-treated or destitute or homeless or friendless children. Three illustrations are: The Children's Refuge (Roman Catholic), Rutherglen, with 120 children; St Mary's (Roman Catholic) Home, Restalrig, Edinburgh, with 75 children (boys aged three to five; girls, three to fourteen); and Whinwell Children's Home, Stirling (undenominational), with accommodation for 38 children, ages two to seven.

There are many other institutions of the same general order, but space forbids our dealing with any of them in detail.

The fact that, wherever exact information is obtainable, the homes are found to have a considerable waiting list, justifies the general inference that the provision for the children here under consideration is at once unsystematic and doubtfully adequate.

2. *Homes for Widowers' Children.*—These homes are less common; but they seem to fulfil a real need. At Corstorphine, near Edinburgh, one such institution provides for 95 children.

3. *Glasgow Home for Widowers with Families.*—Some years ago the Glasgow Corporation provided a home for widowers and their families. The following notes show the scope of its work:—

FAMILY HOME, ST ANDREW SQUARE, GLASGOW

(*Notes by Dr Mary Menzies and Miss Bertram Ireland*)

This Home was established by Glasgow Corporation in 1896 for widows and widowers and their families. It is now used by widowers with or without children and a few single

women. The object was to provide supervision for the children in the Home whilst the only parent was out at work. It was recently occupied by refugee Belgians.

The charges per week in normal times are :—

2s. for a single child.
1s. 10d. for each of two in a family.
1s. 8d. for each of three or more in family.
5s. 6d. for a woman.
8d. per week is to be charged when a child cannot sleep with its parent. Payments must be made on Saturdays in advance.

Many of the children sleep with their parent; others sleep in the night nursery. Children of all ages are admitted. At present there are 21 under five years of age (the youngest is eight months old). Those over five years attend a neighbouring school. The total number of children in the Home is 160, many of whom earn their own living.

Breakfast is at 7.10 a.m.; dinner is at 12.45 p.m.; tea from 5 till 7.30 p.m.

The Home is a large brick building with central heating, electric lighting, stone stairs, tiled lobbies, a lift, etc. At present 160 rooms are occupied. It is open all the year round.

Among the rooms seen were: on the ground floor the dining-room, four tables with white cloths are used by the parents, one table is reserved for working boys and girls; the kitchen, with four large cookers; the men's bedrooms, billiard and reading-room. On an upstairs floor, the (large) nursery with wooden floor and distempered walls, twenty cots and seven beds, coal stove with guard, low table and chairs, toys, a swing, etc.; a kitchen, used as the babies' dining-room with low tables and chairs; a lavatory with four hand basins, low bath, and chambers, etc.

The staff consists of the matron, a cook, three maids, and thirty women. They are all resident: sixteen of the women share a dormitory.

The bed linen is changed weekly, the stairs scrubbed every morning, and the rooms scrubbed twice a week.

4. *Homes for Sailors' and Soldiers' Children.*—We have obtained notes of one or two institutions for the accommodation of sailors' and soldiers' children.

The Edinburgh Home provides for a small number of children. It has been opened since the war began. The Sailors' Orphans Society of Scotland, with Glasgow as headquarters, is an old institution, founded in 1889.

5. *Provision for Blind Children, and for Deaf and Dumb Children.*—There are several institutions for the blind and for the deaf and dumb; but, on inquiry, we have found that, as a rule, children under five are not admitted. The inquiry, therefore, was not continued.

But, in discussion with the Board of the Edinburgh Royal Institution for the Education of the Deaf and Dumb, I learned that there was a desire to make an experiment with younger children. Usually, the child admitted to the institution is at least seven years old. It is contended that children would benefit greatly if admitted to the institution earlier. On my suggestion, the head master, the late Edward A. Illingworth, Esq., O.d'A.F., F.E.I.S., with the authority of his Board, submitted a suggestion for an experimental school for the teaching of children under five. (On 4th August 1917,

Mr Illingworth died suddenly while on holiday. By his death, the world of special education has lost one of its most highly skilled pioneer teachers. His mind was keenly set on the experiment he has here projected. Knowing his extraordinary success with deaf and dumb children generally, I am satisfied that he would have equally succeeded with the younger children.)

SCHEME FOR THE EARLY TRAINING OF YOUNG DEAF CHILDREN DURING PRE-SCHOOL PERIOD

The present compulsory age for the education of deaf children is from seven to sixteen years of age.

School authorities may, however, make payments on behalf of such children from five years of age if parents can be induced to send their children to school before seven.

It is felt by many experts on deaf education, that if deaf children could be brought under special training at an earlier age than five, say *three years*, before they fall into many of the undesirable habits to which such children are liable, and at the age when normal children are commencing to speak, it would greatly facilitate the teaching of speech and speech-reading to these little deaf children, by training them at the very outset to form a habit of watching the mouths of people, and of relying upon the lips as the sole means of communication, instead of upon gesture.

In order to carry out these ideas a special home would have to be provided, entirely apart from an institution for older children, but under the direction of the head master of the institution.

It might be desirable to try the experiment for three years with eight children.

The accommodation required would be a house of twelve apartments, which should be situated in its own grounds with nice garden, and with a southern exposure.

The staff required would be :—

House mother	Salary £40
Trained lady teacher of the deaf (oral)	„ £100
Young girl to assist	„ £25
One or two servants	„ £35
Gardener (two days a week ?)	„ £30

In his admirable *Study of the Deaf Child* (Carnegie Trust Research), Dr James Kerr Love, Aural Surgeon, Glasgow Royal Infirmary, Aurist, Glasgow Institution for the Education of the Deaf and Dumb, illustrates the value of early oral teaching. He says :—

"HOME FOR THE TRAINING IN SPEECH OF DEAF CHILDREN BEFORE THEY ARE OF SCHOOL AGE, BALA, PHILADELPHIA (PRINCIPAL, MISS GARRETT).

"Deaf-mute children are usually of poor parentage, and no attempt is made to begin their education till they enter the institutions at six or seven years old. Between the ages of two and seven the hearing child is rapidly developing, the deaf child is at a standstill, and I have shown that, as a consequence, the deaf child's head is smaller than the head of the hearing child. This school takes the child at two or three years, and educates him by the oral method till he is able to enter the schools for the hearing. It must, therefore, be considered apart, and not compared with other American schools. I found the children very anxious to talk to me ; they spoke and lip-read very well. Altogether, I thought Miss Garrett's work admirable. I think it is sure to be copied in other countries."

6. *Conclusion.*—The numbers accommodated in all these institutions are not inconsiderable ; but they are, after all, only a fraction

of the children needing systematic care. They are, however, a fraction that cannot be neglected. But for those institutions, all destitute children would have to be provided for by the Poor Law. As it is, they are largely provided for by the Poor Law through the various orphanages and other homes. Nevertheless, those homes prevent many children from coming within the scope of the Poor Law. This is another of our many peculiar social developments. The Poor Law, intended for the relief of the helpless poor, is itself relieved of its work by the charity of individuals. Probably their charity is stimulated by the disabilities attaching to Poor Law relief. This, we found to be true in other departments of Poor Law work. This criticism is, however, fully met by the more recent legislative developments.

CHAPTER XXIV

DAY-CARE OF CHILDREN: CRÈCHE OR DAY NURSERY

1. *Origin of the Crèche.*—The crèche, as understood in France, is a home where a nursing mother may place her child during the time that she is absent at work. Primarily, it is intended to help the poor. It relieves the mother of the too heavy load entailed by the simultaneous earning of her living and the upbringing of her child. As a rule, the French crèche takes children of all ages up to two years. The mother visits periodically to feed the child at the breast. Where this cannot be done, the child is fed artificially, and the mother is also provided with prepared milk for use at home. Seventeen years ago, at a visit to a voluntary creche in the Auteuil district of Paris, I was struck with two facts, first, the extreme simplicity of the arrangements—swinging cots, garden, milk appliances; second, the value of glass partitions for separation of rooms and supervision. On entering, one could practically see everything that went on in each of the several divisions. On the initiative of the Pasteur Institute, glass partitions have been applied to the isolation of infections. It is certain that they contribute to the lighting, the cleanliness, and the easy supervision of institutions.

From a small pamphlet on "The Work of the Parisian Crèches," issued by the Secretariat of the Sixteenth Arrondissement and describing two of the chief crèches in Paris, I take the following:—

"Among all the works for the protection of infancy, the work of the crèches is one of those that has made the most distinctive impression, that, perhaps, which gives the most appreciable results. It chiefly excels in this, that it allows the mother to work without separating her from her infant. Moralists and physicians are alike unanimous in declaring that the child has a right to the care of the mother, a right to her milk, a right to her love. The mother, unless it is an absolute impossibility, is therefore under the strict obligation to bring up her child. But this obligation, which is at the same time a pleasure, it is impossible for the poor mothers to fulfil without assistance. Many are burdened by the necessity of working away from home; then the little ones will remain neglected, suffering from want of care and exposed to the worst dangers. The crèche opens wide to them its doors; it collects them, looks after them, feeds them, and clothes them. When the evening comes, the mother takes her infant again, fresh and well, and con-

tinues the maternal task that others have sketched out for her. The care that surrounds the infant does not stop at the door of the crèche. If it is ill, it is not admitted, because of the danger to others ; but the lady patrons visit it, assure themselves that it wants for nothing, and give to the mother the advice of which, too often, her inexperience stands in need. Fortunately, these cases are rare ; thanks to the precautions taken, the diseases of early infancy are reduced almost to nothing. We have made a great advance on the first homes, where too many infants were crowded into a space too small, badly ventilated, and insufficiently cleaned. The establishments founded by ' Œuvre des Crèches ' are bathed with vivifying and pleasant light, water is generously distributed, pure air enters in full measure. Not only do they use nothing but sterilised milk ; for fear that the want of precautions should prejudice the work so well begun, each mother whose child is not fed on the breast takes home the provision necessary for the night. One can say that for the whole time of its sojourn at the crèche—that is to say, up to the age of three years—the baby costs its family nothing. But there is yet another thing : the poor mothers, who so often have bitter moments to traverse, are sustained, protected, consoled ; they feel that they are not alone ; and more than one, above all among the abandoned, have been saved from despair by so opportune an intervention. We shall appeal, then, to all those favoured of fortune to enable us to bring up a healthy and strong generation, to save the mothers from despair of life, to keep them from meeting on the streets their sad and starving offspring, to make their cheeks rosy, and to bring a smile to their lips."

These institutions are supported partly by voluntary subscriptions, partly from the public assistance. There are others directly under the management of the poor law organisations of Paris. But those I have described are intended for the large margin that lies between labour and pauperism. In that margin there is buried much good social material ; every society would do well to prospect there, and the organisation of the crèches is one of the best instruments of discovery. The Coullet Restaurant is another. The crèches I have seen in Paris bear out what is here said of the system. For efficiency without display, for simplicity of management, for cleanliness, for the brightness and vivacity we would always associate with childhood, I wish to see nothing better than the crèche I once visited at Auteuil.

Definition of Crèche.—The French term crèche, derived from the old High German krippja, originally meant a manger for animals ; specialised to mean the birthplace of Jesus ; specialised still further as an asylum for foundlings ; later, as an asylum for infants of the poor during the time the mother is absent at work.—Hatzfeld and Darmesteter, *Dictionnaire général de la langue française.*

2. *Extension of Age.*—In this country, the crèche or day nursery has not confined itself to the temporary care of sucklings, or children under two. It has steadily tended to provide for children from one to three, or over. It is still, as a rule, based on the idea of taking care of the child while the mother is at work ; but this idea is yielding place to the more fundamental idea that where the home is

insufficient in space or equipment, the day nursery may be used by the mother even while she works at home.

This, however, in the case of young infants is not common. More recently the day nurseries have taken a further step. They have become the resort of children from two to three, or even higher ages. For munition workers, such provision has become an absolute necessity. At many of the large munition works, day nurseries for children of all ages are provided or are about to be provided. This is probably a temporary war measure; but it has behind it the idea that there is a definite purpose to be served by fitting up the day nursery as a temporary place of care for all children of the pre-school ages.

3. *Economics of the Day Nursery.*—The day nursery is only a development of a common practice. The working mother with young children has to leave them in charge of somebody, a neighbour or other form of "minder." This, as the notes from Dundee and other cities prove, is a common practice in all the industrial towns. So long as women's labour keeps on its present footing, the day nursery will be wanted, for it merely makes systematic what at present is done on a large scale casually. Probably in many cases the child at the day nursery is better tended than it would be either by a neighbour or even by the mother herself. But it is, nevertheless, a method of separating mother and child. To this extent, it tends to become a permanent substitute for the home. It tends to encourage the artificial feeding of infants. It tends, therefore, to impair the physiological maternal capacity. But this is not established. Artificial feeding is practically universal, whether there are day nurseries or not. But the separation of mother and child is important on other grounds.

These results nothing but necessity can justify. We may go further. It is objected to the day nursery that it actually encourages mothers to seek work when they ought to be at home. Perhaps it does; but until the economic condition of the mother as such is made sufficient, no other course is possible to her. If she is not to starve, she must leave the infant to someone's care and go out to work. In a large number of cases the only alternatives are the poorhouse, from which she may be technically barred, or starvation, or a definite money payment to make the mother's work superfluous.

Briefly, the alternatives are the day nursery or the endowment of mothers. Here I am thinking of the widow left with young children and not receiving sufficient support from any source, or of the unmarried mother left with an infant and unable to bring it up on her Poor Law allowance, if any. There is another case, not uncommon: the mother of young children where the husband is disabled or in desertion. The varieties are many; but each of them raises the same question, namely, whether it is ultimately better economics to compel the mother to work and to some extent to neglect her nursling, or to recognise that the nursing of a child at home is itself an occupation that should be paid like any other service. In these alternatives many difficult social questions converge. But these alternatives are now coming into the front rank in the discussions of motherhood. If, in a well-equipped home, the upbringing of a child demands the full energies of at least one woman, frequently of more than one, the upbringing of a child among the working mothers cannot equitably require less. The physiological needs of the infant are everywhere the same. It is the growing consciousness of this fact that is driving forward the day nursery movement, and revealing, incidentally, many complexities in the economics of a working mother's life. Twenty times now for once formerly the question is heard: why should a mother have to work outside when she has a young family to occupy her whole energies at home? I can give no sufficient answer; but I have already shown the seriousness of the issues. (See Chapter VIII.)

Day Nurseries Visited

Dr Mary Menzies, Mrs Leslie Mackenzie, and Miss Bertram Ireland, in the course of the investigation, made a detailed inspection of a large number of representative day nurseries. Dr Ernest Watt gives details of the Hugh Smiley Day Nursery in Paisley. In our inquiry we have found that some thirty day nurseries exist in Scotland. This number is probably not exhaustive. In all, more than twenty day nurseries were carefully inspected. The intention was to discover how they were conducted, how the children were cared for, what hours were kept, what food was provided, what staff was necessary, what the outlays were, and, generally, what function the day nurseries spontaneously arising played in the economics of the particular community. We have descriptive notes of all the places visited. But the methods of the day nursery are much the same everywhere. Here I emphasise a few leading special points. Our photographs show three pictures of the Hugh Smiley Day Nursery (illustrations, p. i), and one picture from an Edinburgh Day Nursery (illustrations, p. i). The photographs of the Hugh

Smiley Day Nursery were kindly provided through the honorary secretary, Mr John MacRobert. Mrs Coats, president of the day nursery committee, had them specially prepared to show some leading features of the nursery. I regret that space forbids the reproduction of the full set supplied.

Edinburgh.—Five Edinburgh day nurseries were visited, four of which are under the Edinburgh Day Nurseries' Association. All of these are in or near crowded localities. The five nurseries are—Canongate Day Nursery, Sciennes Day Nursery, Stockbridge Day Nursery and Training School for Nursery Nurses, Fountainbridge Day Nursery, and the Atholl Crescent Day Nursery. A new nursery was opened lately in Dalry in connection with a washhouse there. Of those inspected, the Canongate Day Nursery has been specially planned as a nursery. The Atholl Crescent Day Nursery is adapted to the training of the Princess Louise nurses for children. The others are ordinary street houses used as nurseries.

Canongate Day Nursery

Hours.—The day nursery hours are usually from 6.30 a.m. to 6.30 p.m. for five days of the week. In one nursery there is a rule that if a child is left beyond the hour it might be sent to the Children's Shelter. This has never actually been done.

Admission.—At this nursery, children from five weeks old are accepted. In the school holiday-time the older children occasionally look after the younger, and so save the nursery fee. Some school-age children come to the day nursery for meals and pay one penny for each, sometimes spending the day there when not quite well enough for school.

At this particular day nursery there is accommodation for some sixty children. The mothers are mostly engaged in printing or laundry works, at rag stores, or breweries. Very few are unmarried. Although there is no class for instruction, the mothers are often seen and advised. On Saturday the day nursery is closed, the older children looking after the younger at home.

Fees.—The mothers pay 5d. a day for an infant and 4d. for an older child. When more than one member of a family attend, the fee is reduced by one penny for each child.

Sleep.—After dinner the children rest on trestle beds placed on the balcony. But it is thought that the mothers are not learning to put the children any earlier to bed than formerly. This, however, depends on many conditions beyond the individual mother's control. It is familiar to every social student that, among the working-classes, the young children get too little sleep.

Medical Examination.—Every child is medically examined before admission.

Glass Partition.—Our photograph shows a glass partition which separates the infants in cots from the toddlers. The glass partition secures greater quietness for the infants and makes supervision easier.

Training.—Two students of the Atholl Crescent Social Science Course attend at this nursery for training.

Diet.—The bottle babies are fed on diluted cow's milk usually. Older

babies get corn flour or equivalent food. The older children get porridge and milk every morning, a biscuit at 11 o'clock, soup and milk-pudding at dinner-time, replaced once a week by mince, bread with dripping or jam, and either milky tea or cocoa at tea-time.

Clothing.—The infants are bathed every day and are entirely re-clothed with nursery clothing. The older children are washed, if necessary, and receive clean pinafores for wear in the nursery. The clothes taken off the children on arrival are kept in a formalin cupboard.

Attendances.—At date of visit, twenty children were attending for the whole day, six others came in for meals. For the five days of the week the attendances were 143.

Finance.—The total yearly expenditure was £193. The payments by the parents and pupils amounted to £75. The deficit was, therefore, £118.

The other day nurseries visited were managed much on the same lines, but the accommodation was not specially adapted to its purpose in the same way. In another nursery the expenditure was over £500. Payments from parents and pupils amounted to £325. Thirty children can be accommodated.

Training School.—In the training school, women over eighteen years of age are given a six months' practical training in the work and management of private nurseries. The fee is £30, and a certificate is given on the completion of the course. Laundry, needlework, cooking and kindergarten lessons are given, as well as lectures by visiting physicians on physiology, hygiene, and first aid, feeding of infants, etc. The nurses in training are resident, and are requested to wear uniform indoors and out of doors. There is accommodation for seven nurses in training. The latter part of the nurses' training includes the complete charge of two children that are resident for six months in the model nursery. One child is under six months old and the other is between three and four years old. Two nurses share this charge and do no crèche work while in the model nursery.

The model nursery is a large room with a southern aspect which can be well lighted and ventilated by two good windows. There is an open fireplace. It is furnished like a nursery in a private house, with a cradle for the baby and a cot for the older child. The nurse in training on duty sleeps in a bed in this room, screened off by a high wooden partition.

At another nursery the expenditure amounted to £151, and the receipts to £61, in the year 1915. This nursery is open for six days in the week.

The expenditure at another nursery, with an average daily attendance of twenty children, was £113, and the receipts were £31.

Princess Louise Training School

Miss E. de la Cour, Principal of the Edinburgh School of Cookery and Domestic Economy, has furnished me with some notes on the course of training for the Princess Louise nurses.

> In 1911 the Council of the School of Cookery, 5 Atholl Crescent, arranged to add a Training for Nursery Nurses for Children to their curriculum, on account of the demand for educated women as nurses for children and there being then no facilities for obtaining such training in Scotland. Part of the school buildings were adapted and made suitable for nurseries, where both nurses and children could be in residence. Her Royal Highness, Princess Louise, Duchess of Argyll, patroness of the school, graciously allowed the nurses to be called after her, and they are known as the " Princess Louise " nurses for children.

The length of the training is six consecutive months, the first two months are mainly devoted to attending classes in the school, the subjects in which instruction is given including cookery, laundry work, housework, needlework, cutting out and making children's garments, lectures on home sick-nursing, hygiene, physiology. For the remaining four months of the course the students work entirely in the nurseries, where there are a number of children in residence. At first they act as assistant or under nurses, and later as head nurses, being entrusted with the care of one and later two children, always, however, under the direction of the matron.

By means of the nurse's training we are able to give a happy home to a number of infants and young children, and many of those who have been confided to us have come to the nurseries badly in need of care and mothering. It is wonderful how quickly the children have responded to careful treatment. One of our children, now nearly five years of age, has been with us almost since birth, and we shall be sorry when she leaves us, but five years is our age limit. Many of the children remain only a short period, and if we have a vacancy we are willing to take a delicate baby for a few months only. Often we are applied to because a baby is delicate, for it is known that every care and attention will be given in our nurseries. The older children form a very happy party in the large day nursery. The hour between tea and bedtime is given up to their amusement, and the students appear to enter into the games as much as the children, and all enjoy themselves together.

We feel that the "Princess Louise" training must be filling a decided want in view of the large number of applications we receive for nurses, and our chief regret is that we do not train twice or thrice the number, so much are our nurses in demand. Owing to the war, the number taking the course has fallen off, but we hope and expect that it will increase later on again.

A few additional details will be of value:—

The premises consist of an entire wing of a two-flatted house. There are ten rooms, consisting of bedrooms and night nurseries, three day nurseries, three bathrooms, and the matron's sitting-room and students' sitting-room.

Children are received from birth to the age of four and are resident in the day nursery. One child spent four years in this day nursery, and it is not usual for any to spend less than six months. Most of the children show signs of early neglect. Many are recommended by the Parish Council, and the Council's inspector visits the day nursery from time to time.

There is accommodation for ten babies.

The children are usually paid for at the rate of 10s. per week. Sometimes a smaller sum is accepted.

The students must reside on the premises, unless their homes are in Edinburgh, in which case they may stay at home during the first two months of their training. Their fee, which is an inclusive one, is £31, 10s. Each pupil looks after one child, doing all the work thereby entailed, such as making up feeds, mending and making clothes, etc. They must wear uniform and take their meals in the nursery. The first two have to work with each baby in turn; one always acts as kitchen nurse, sterilises the milk and makes the baby food.

The staff consists of the matron and one assistant matron.

The milk used is sterilised, and the teats are boiled every night. Individual teats are kept separately. The children are weighed every week, and are measured when they first arrive.

Glasgow.—The Queen Margaret College Settlement Association conducts a day nursery. A feature of it is a Montessori Free Nursery School for children under five. This was opened in 1914. There are now about forty children on the roll. The hours of attendance are from 9.30 to 12 noon and from 1.30 to 3.30. There is one teacher, who receives assistance from a girl of about fourteen years of age.

The Glasgow Day Nurseries' Association supports six nurseries, situated in slum and working-class districts—Anderston, Bridgeton, Hutchesontown, Milton, Partick, Maryhill. All of these were visited. The income for the year ending 31st July 1915 was £522, the expenditure £705. These nurseries vary in size. Some accommodate forty to fifty children, others from fourteen to fifteen. The children are, as a rule, admitted from birth to

eleven years. The nursery hours are from 6 a.m. to 6 p.m. In some cases the older children attend school, but return to the nursery for meals and after school hours. In some localities the mothers are, for the most part charwomen, wives of men at present away, or of men receiving small pay, or of "won't workers." The usual charge is 4d. per day, prepaid.

The Penny Day Nursery.—This nursery is conducted by the Guild of Aid. There is a rent club, grocery club, clothing club, and penny savings bank. Within the Guild there is a branch of the Mother's Union, for which lectures on economical cookery and household hints are arranged. Members of the Guild also attend artisan cookery classes. The Penny Day Nursery has been in existence for eleven years and is affiliated with the National Society of Day Nurseries. The year's attendances numbered over 4000.

Demand for Accommodation.—There is little evidence to show that the accommodation is unequal to the demand.

In connection with munition workers several new day nurseries are being provided. Most of these will probably be worked in association with the municipal schemes of child welfare.

Dundee, Aberdeen, Leith, Haddington.—The descriptions include day nurseries in those four towns. But it is unnecessary to give details.

Paisley.—Dr Ernest Watt provides some important details regarding the Hugh Smiley Day Nursery.

> Begun in 1880 by voluntary effort, the committee in May 1912 opened new premises generously donated by the Dowager Lady Smiley and named "The Hugh Smiley Day Nursery." The nursery is centrally situated, and the following figures abstracted from the annual reports, 1912 to 1915, show the extent to which it is taken advantage of :—
>
> | | | | |
> |---|---|---|---|
> | 1912, | average weekly attendance, | | 160 |
> | 1913, | „ | „ | 140 |
> | 1914, | „ | „ | 110 |
> | 1915, | „ | „ | 126 |
>
> The following are the rules of the institution :—
>
> 1. The nursery will be open on week-days from 5.30 a.m. to 6.30 p.m., except on Saturdays, when 1 o'clock is the closing hour. Children are not received after 9.30 in the morning.
>
> 2. Children are admitted at the discretion of the matron, or on the recommendation of some member of the committee.
>
> 3. A charge of 3d. per day will be made for each child left at the nursery, and the same is payable in advance, either daily or weekly.
>
> 4. The matron has no power to receive a child without the regulation payment of 3d. per day, except that, when three in one family attend, the payment will be 8d.
>
> 5. Children must be brought clean.
>
> 6. No child shall be admitted while suffering from an infectious disease, or from a house where there is danger from infection.
>
> 7. All complaints are to be made direct to the matron, or in writing to the secretary.
>
> 8. A fine of one penny will be charged for any child who is not taken away from the nursery by 6.30, or 1 on Saturday.
>
> 9. Babies will be fed on the best milk or food recommended; older children will receive three good meals daily.
>
> The nursery is visited each day by a doctor, and the following are abstracted from the medical reports for the years 1913 and 1915 :—
>
> 1913.—"The general health of the children attending the day nursery has been very good during the year, and there has been a remarkable freedom from any infectious disease.

"During the autumn there was a good deal of trouble with stomach derangements amongst the infants. These troubles, too, were invariably worse after the week-ends spent at home. In each case the mother was directed how her child should be fed, but I fear these directions were not always carried out.

"The health of the older children was excellent; and in the good weather of last summer full advantage was taken to have the children out in the open air and sunlight as much as possible. This proved of great advantage to their health."

1915.—"The health of the children attending the nursery has been remarkably good throughout the year. One case of measles occurred, but the child was at once isolated, and removed home as soon as possible. No other cases followed it.

"Digestive disturbance is always a source of trouble, especially on Monday, due to improper feeding at home during the week-end. A number of the children have suffered from eye inflammation, but on all occasions it yielded quickly to treatment. Two children with rather serious burns, received accidentally at home, were treated.

"At the beginning of the winter I found it necessary to suggest that children attending the nursery have their hair cut short. This has enabled us to free the nursery from infectious skin disease.

"During the summer the children were left in the open air, with great advantage to their health."

A practising dentist also attends the nursery when requested.

4. *Criticisms of the Nurseries visited.*—The nurseries varied greatly in the type of accommodation and in the quality of management. In one of them, for example, the inspection resulted mainly in a series of negatives: no bathing of the children, no diet sheet, no disinfection, no proper control of milk, bottles, or teats, windows blocked by curtains, insufficient ventilation, no outdoor life. Here, in the most emphatic sense, "the noes have it." But this is the exception. As a rule, efforts are made to preserve good hygiene in the nurseries. Under the new child welfare schemes, wherever day nurseries form part of it, adequate medical superintendence must be provided. At a nursery in a small town the district nurse was asked to visit periodically and help to weigh the children. At these nurseries the breast-feeding of children by the mothers is practically unknown. In this respect they form a strong contrast to the French crèche. It is probable, however, that at home, among the same order of workers, the bottle-fed baby is the rule rather than the exception. But the failure of breast-feeding is not peculiar to any class of the community and cannot be regarded either as a cause or as a consequence of the use of the day nursery. The problem is full of difficulties.

Of the day nurseries visited, some are well provided with gardens; others are gardenless. A day nursery without the means of placing the children in the open air, either on balconies or in gardens, is one of the least desirable of institutions. Of those visited, several were open to this criticism. But there is a criticism even more fundamental: it has been found that, in many places, the ideal is to keep

the young children sitting, correctly clothed, and still. As a means of generating rickets, nothing could be better. If there is one thing that the very young children need more than another it is constant activity of muscle. Anything that restricts the movement of a child is physiologically bad. The very young children do, of course, need much sleep; but this is not the point criticised. The criticism is levelled against the care of the children emerging into the toddler state or actually arrived there. To be kept in a still room, sitting, or bored to death by the monotony, is the least and worst service that any child can receive. Unfortunately, few day nurseries without access to the open air, either by balcony or otherwise, can provide the necessary stimulus. With fair justice, it has been said of these closed nurseries that, if the children could be kept from being run over, they would be better in the gutter. It is necessary to put this point forcibly; because our inspection proves that the cleanliness, quietness, prettiness, and cosmetic effects generally are apt to take the first place in the minds of the attendants; the children's physiological demands for activity tend to take the second place. Wherever the conditions made it possible to keep the children in the light and under the stimulus of fresh air, the whole spirit of the nursery service was different.

5. *Conclusion.*—The conditions criticised flow less from a want of will than from a want of knowledge. It is not fully recognised that all children require opportunities for action. As they emerge into the walking stage, the opportunities for action become imperative. The still nursery is then an anachronism. The real need is a constantly varied field of activity. This leads naturally to the toddlers' playground.

CHAPTER XXV

DAY-CARE OF CHILDREN: THE TODDLERS' PLAYGROUND

1. *An Edinburgh Experiment.*—"In Edinburgh," so I wrote a few months ago, "the Local Authority has made an important experiment in a new direction. So long as a working mother has an infant to nurse, a house to keep, and a husband to feed, the toddler at home is certain to be a serious handicap on her domestic activities. To remove this handicap in the overpressed homes, the city of Edinburgh, through its staff of health visitors, has established a Toddlers' Playground. Admission to the playground is conditional: *First*, there must be a baby at home needing nursing; *second*, the mother must undertake to prepare the school children properly for school and to prepare the toddler for transference to the playground; *third*, she must maintain a reasonable standard of tidiness in the home. With the school children at school and the toddler in his superintended playground, the mother is enabled to attend both to her baby and to the preparation of the midday meal. In time for the midday meal the toddler is taken home, and has the rest of the day to look forward to his next visit to the playground. The equipment of the playground is of the simplest: sufficient open space, with the usual infant properties of sand, rocking-horses, etc., and an open-air shelter for the rainy days. Even in the conditions of our Edinburgh climate, the experiment has succeeded in every respect. The homes are stimulated to maintain a better standard, the mothers' energies are economised, the baby receives more attention, the toddler has improved not merely in habits, but materially in health. One test of the health improvement has been noted by the medical man in attendance. It is that the 'running noses,' so commonly incidental to the life of the children, have spontaneously disappeared. From this fact, many important inferences could be drawn; but one broad inference is enough, namely, that the stimulus of the cool air, the process of preparation for the playground, the transference to it, the two hours' occupation of it and the transference home, all result in a generalised improvement of nutrition and a toning up of the whole tissues.

"The playground is in charge of a skilled and paid attendant. It is gaining in popularity every week. Wherever the idea has been mentioned elsewhere in Scotland, it has met with warm acceptance. The Edinburgh experiment with the toddlers was the result of a suggestion by Dr A. K. Chalmers that experiments should be made with an open-air crèche. The idea is certain to spread, and, as the equipment and staffing are so simple, the toddlers' playground may well become an ordinary adjunct of every working-class street. The essential function of the playground is to enable the overladen nursing mother to get relief for a couple of hours from the too exacting demands of toddlerism."

At the end of six months the superintendent, to whom we are indebted for three photographs (illustrations, p. iii), was able to record many little improvements in the habits of the children and in the conditions of their homes. At first the attendance was a difficulty, sometimes because the infant was not ready at the hour, sometimes because there was no person to take it to the playground. But in time the attendance grew steady, a sign that the playground had become a functional part of the home. The health of the children improved. Mothers told of extraordinary differences, mentally and physically, in their children. "The listless, apathetic, voiceless child has been turned into a bright, romping, talkative urchin who is beginning to see that life is worth living after all. I get quite long conversations out of little mites now that once sat in a silent heap on the floor."

2. *Housing and the Toddler.*—The toddlers' playground does two things: it relieves the overburdened mother and tones up the badly-housed child. The mother needs the relief; the child needs the stimulus. Of the two, perhaps the stimulus to the child is the more important. The general relation of housing to infant health, we have already seen. But our data did not bring out in isolation another important fact, namely, the relation of housing to the health of children aged two to three. Dr Brownlee, Statistician to the Medical Research Committee, has dealt with this point in an article contributed to the *Sunday Observer* of 8th July 1917. He says:—

"Permanent cleanliness is impossible with overcrowding. The conditions are unstable (that is, in an area where the houses are new), and though at the beginning the prospects look favourable, the seeds of decay are already sown and the due crop will be reaped. It is not, however, in the first year

of life that the greatest strain comes. *Children are most depressed by unhealthy surroundings between the ages of two and three.* This is a uniformly observed phenomenon. It is in the country districts of England that the best conditions for the upbringing of healthy children are observed. Taking the death-rate in these districts as a standard, and taking Salford as an example of an opposite nature, it is found that, while during the decade 1891–1900 the infantile mortality was twice that of the country districts, the death-rate between the ages of two and three years was four times that of the country districts. There is thus a progressive deterioration of health, showing its greatest influence at this later age, and also showing how much chronic poisoning takes place in unhealthy surroundings."

These conclusions are based on a special analysis of figures. The substance of Dr Brownlee's argument is that, so long as the houses are new and clean they attract good tenants, who attend well to their children. The infantile death-rate may then be low. When the houses become chronically dirty, only bad tenants occupy them and then the children suffer from chronic poisoning. But this is most obvious not among the infants on the breast, but among those that have emerged into the toddler stage. This striking inference suggests that the toddlers' playground is fundamentally essential to the health of the children that occupy the crowded quarters of every city. The open-air playground is the counteractive to the poisonous house. It is not a perfect counteractive; but it is an immediate relief to the child and, indirectly, it leads to the uncrowding and cleansing of the houses. Where the toddler is kept clean, the house will not remain long dirty. But, on the small scale hitherto common, the playgrounds affect only individual mothers and individual houses. This is not enough. Every main block of houses should have its toddlers' playground. If the playground is to have its full effect, it must be near the house, easy of access, and superintended with skill. It then becomes a day-camp for physical education.

3. *The Toddlers' Need for Play.*—To a large extent the kindergartens are simply toddlers' playgrounds. But they are not conducted quite from the same standpoint. The kindergarten necessarily works by a specialised system of educational ideas. Its primary purpose is education. Education is not excluded from the toddlers' playground; but the primary purpose is to establish the children in vigorous health. The toddlers' playground is simply a special

form of day nursery ; but the specialisation is justified. For children from one to three, a playground of this type is a physiological necessity. Dr Brownlee gives the reason.

If it is asked why the toddler cannot play with other children, the answer is clear. The child of one to three needs protection in his play. To leave him to children older than himself is to expose him to risks that cannot be controlled. Yet, on occasion, nothing is more beautiful than the tender care the children of five or six spend on their brothers or sisters of one, or two, or three. To leave the toddler to play by himself is to impair his development. To secure to him the highest physiological value of play, he must be placed in the charge of a skilled and sympathetic person. It is then that the toddlers' playground becomes a centre at once of health and of education. It has a reflex effect on the toddlers' family. The appeal of the toddler for home conditions equal to those of his playground is too subtle to be resisted. The playground standardises the home. It also develops in the child the physical conditions for education. It takes him away for the moment from the rigid mechanism of pavements, dark stone stairs, and packed immobilising rooms. It gets him into the movement of flowing Nature. He can spend his strength against a yielding resistance. He feels the turf elastic under his feet. He can sink in the sand ; he can heap it into heaps ; he can dig it into trenches, build castles of it, destroy mountains of it, and begin again forever to dig and build and destroy. He learns to touch soft things softly. He lightens to the light. He flushes to the wind, he leans to it, he fights it, he flies before it, he learns its many voices. If there are flowers, he sees them in their colours. If there are trees, he learns them by their branches. If there are birds, he knows them by their songs. For all the rich hour or two, he misses none of the responses in the subtle ritual of Nature.

CHAPTER XXVI

DAY-CARE OF CHILDREN: PLAY CENTRES, PLAYGROUNDS, AND OPEN SPACES

1. *Evolution of the Play Centre.*—All these institutions for the day-care of children are interrelated. The crèche, originally intended as a waiting-place for the babies of nursing mothers at work elsewhere, has grown into the day nursery. The day nursery, in its turn, has become, in part, an institution for the day-care of children even where the mother stays at home. Out of the day nursery has sprung the outdoor toddlers' playground, specially designed to meet the physiological needs of children at the early walking stage. Meanwhile, the play centre had developed on a considerable scale among children of the school ages. It arose out of the demand for some cleaner and safer play place than the streets. In part it was fostered by the fact that, in many cases, the mothers of school children did not return home until long after school hours, and a safe place had to be found both for the older children and the younger.

In 1911 Mrs Leslie Mackenzie, in a paper on "Holiday Homes, Vacation Schools, and Play Centres," wrote :—

"The essential idea of a play centre is to provide a place where the children, out of school hours, may have perfect freedom both to play their own games and to profit by the skilled direction of the real student of child life. How little is needed to unlock and organise the play energies of children, how much their lives are sweetened and enriched by the tender direction of skilled people, you may learn for yourselves if, imitating Mrs Kimmins, you try the same experiment as we tried a year or two ago in Edinburgh. A gentleman on New Year's Day was so affected by the poverty of the street as a suggestive playground for children that he said to a friend of mine : "I'll give you £100 if you can do anything to give these poor little things a clean place to play in." The Edinburgh School Board provided the clean places. The £100 was expended in providing toys and appliances and in the payment of an organiser, who had had experience in the organising of play centres. Many teachers volunteered to take a turn at the play centres. Three or four centres have been established. That they satisfy a real want of the poorer home, which has only the street as its play-room, is proved by the fact that the centres are always more than filled by the children attracted to them. The usual play hours are from 4.30 to 7—that is, until the working

mothers return home to prepare the supper and take over the charge of their own families.

"To bring these scattered observations to a point, I have only to remind you that holiday homes, vacation schools, and play centres are but a small part of a vast system for the development and expansion of personal efficiency, which, after all, is the primary method of preventing destitution. How much preventive effect is to be assigned to this cause or to that, it is no more possible to say than it is to say how much of our happiness is due to the sunshine or to the green trees. But we know that these count for something, and they are a part of the great system we live by. By providing a country holiday for the enfeebled children, by developing the children in the vacation school along the lines of nature, by sweetening the imaginative memory of the child in the play centre, you are at once raising the personal level of the child and relieving the life of the overburdened home." (*Proc. Nat. Conf. on Prevention of Destitution*, 1911, p. 350.)

These, however, were only the occasions, not the causes, of the play centre movement. The causes lie deeper. In the toddlers' playground, as we have seen, the growing organism of the child finds some factors necessary to its development. In the play centre for the older children the principle is the same. Thus all the institutions named—crèche, day nursery, toddlers' playground, play centre, children's garden, and all the equivalent institutions for the day-care of children—cease to be bound by fragmentary ideas of economic necessity and become stages or elements in the provision of the right physical environment for the growing children. It is no longer necessary to justify them on the ground that the mother when she goes to work must have a place to leave her child or a person with whom she can leave it. On the general grounds of health, it is now accepted that a house in a street is not enough for the healthy growth of a child. The house must be supplemented by open spaces where children of all ages can find their appropriate playgrounds, equipped according to the wants of the particular age. In many statutes, the need for space around houses is fully recognised as a part of general sanitation. But it is not yet clearly recognised anywhere that without easily accessible spaces for children a house fails to fulfil the true functions of a home.

To verify this is easy. If, any summer afternoon or evening, you choose to walk in the old or congested areas of Edinburgh or Glasgow—to name but these two—you always find scores upon scores of children playing on the street. They are of all ages, from the infant leaning against its mother's knees at the doorstep, or

rolling on the pavement, to the self-sufficient child arranging his own games. Every stage of toddlerism is there—sitting, or bending, or tumbling, or rolling; the toddler of two, just able to bend slowly down without flopping on his face, takes his place among the toddlers of three, who can bend or keep erect at will. He, again, mixes with the ex-toddler of four, or the relative senior of five and over. By these makers of the future the street, or the close, or the court, or the stair is transfigured into a land of sport and adventure. For generations the instincts of the children have been showing us the way; lightless stairs, dirty streets, dirty courts, every form of restriction on the movements of children—these are the answers of our cities. Even where little courts have been taken in hand by Open Spaces Committees, the courts are prettily decorated with green grass, or rockery flowers, or little gravelled walks and then locked off from the children. This is a statement of fact. Repeatedly, we have gone through areas of Edinburgh where open spaces have been railed in and made to turn green; but, except on special fête days, they are shut off from the children's use. The net effect is simply to improve the neighbouring property and to limit still further the too limited spaces for the children. This futile result can easily be prevented, and, in the free kindergartens of Edinburgh, it is effectively prevented. But it remains true that many of the spaces, however pretty they look amid the picturesque piles of ancient slums, are strictly protected from the only persons to whom they could be of real hygienic value. Into some of the green strips of the city, the children enter at their peril: they are "trespassers."

2. *Revolt against Mechanism of the Street.*—It may, then, be taken as established that the steadily increasing demand for more open spaces easy of access to children has its roots in sound physiological instincts. It is part of the general revolt against the regulated mechanism of the streets. The open country hardly needs a policeman; the city street cannot be kept clear without one. The open country is freedom; the street is regulation. If men are to live in cities, regulation is necessary to keep the individual safe and to make a relative freedom possible. But the regulation of the streets means innumerable restrictions on personal activity. Every restriction means a special adjustment of individual effort. Every adjustment means choice, repression of impulse, deliberate action.

The external regulation of the streets produces an internal regulation of the individual. When the external regulation drops, the inner censor of actions goes off duty and the repressed energies instantly re-assert themselves.

If you would test this, watch a large school at the play hour. The moment the bell rings, all restraint disappears; every duty ceases; there is an instant return to individual freedom. Within seconds, the playground is a world of organised game groups. The children are in another and an older world. They yield to their re-assertive instincts and restore to the organism its free poise of function, so correcting the bias of over-discipline. But in the end discipline gains rather than loses; for the diffused vigour generated in the re-assertions of play restores initiative and makes the next lesson easy.

What is true of the school on the small scale is true of the city on the large scale. The restraints are less obvious, but equally real; the revulsion is perhaps even greater. For, unlike school, which is an affair of hours per day, the city always means an exacting life of weeks, or months, and the joy of relief from it is necessarily greater and more diffused. If you doubt the inference, watch the doings of five hundred children when they go from the city to the country. It is only then that you can realise how much the hourly supervision, the mechanical restraints, the restrictions of activity, the want of the free light and the free air, the over-stimulation by noise and company, all count for in the growth of the child. These facts alone prove that—in the marshalled streets, the poorly lit courts, the dark lanes, the dangerous stairs, the dark and dirty lobbies, the crowded tenements—our great cities have, for one reason or another, failed to secure one primary condition of wholesome nurture, a safe, clean, inviting place where the children can play in freedom to their heart's content.

3. *Play Centres and Town Planning.*—On the large scale, this criticism has asserted itself in the town planning movement. But to the student of child life, the unfitness of many city environments for the upbringing of children has long been placed beyond the need for argument. The play centre movement is only one phase of the criticism of our cities. This movement, starting more or less accidentally from the demonstrated needs of the slum-housed poor,

is now seen to rest on the fundamentals of physiology and to take its social value from the fundamentals of biology. At every stage a child needs play to keep it individually fit for the day's duty. Equally it needs play to keep up its proper pace in growth. Physiologically, he must keep well if he is to live; biologically, he must live if he is to continue the race. Fitness and survival go together. It would be interesting to continue the argument right into the heart of the many theories of play; but, for our purpose, this is not necessary. One argument is beyond controversy: the streets are too dangerous for young children. It follows that special play places, indoor and outdoor, are primary factors in the promotion of child nurture. The play centre, therefore, is neither a pretty fancy to promote the æsthetic study of the English country dances, nor a "fad" of the physical education "cranks." It is an essential counteractive to the debased housing that has come to us through the too rapid concentration of people in ill-planned cities.

It is in the poorer quarters that the play centre is most wanted, because it is in the poorer quarters of the cities that, by economic selection, the housing is least fitted for human habitation. In the better quarters the need for the play centre has asserted itself in a thousand ways; but even in the better quarters the belief in the health value of open spaces is still feeble and uninformed. It has taken a long campaign of agitation to break some of the ancient habits of street-making and to force the average citizen to consider the hygiene of the street as a factor in the life of a family. How far behind we are in solving the real problem of the street—traffic, safety, amenity, health—the Report by the Royal Commission on Housing (Scotland) shows in overwhelming detail. This is the larger case; the play centre is the smaller. To purge our great cities of their congested plague-spots will take the efforts of years. The play centres can be provided at once.

4. *Conclusion.*—The experiment started in Edinburgh about 1906 has continued to maintain its interest. The Edinburgh Play Centres Society presented its Tenth Annual Report in 1916. But, partly as the result of the war, its four centres, with an average attendance of 1250 children, had to be reduced to two. "Never in the history of this movement has this work been more urgent, for there have never been so many children clamouring for admission to the centres.

Darkened streets, combined with the fact that many of the mothers are working and that most of the fathers are at the front, leave the children utterly without resources, and the city is face to face with conditions which are likely to prove dangerous in the future." Possibly, the grants now available from the Scotch Education Department may place the play centres in a better financial position. But it is clear that, if the play centre has the genuine health value I have tried to indicate, it cannot be left any longer to the chances of individual interest and individual generosity. It must pass into its place as an essential educational institution like the ordinary day school. The experiments made by enthusiastic and skilled people have proved the case. From every standpoint, whether we think of the overburdened home, or the ill-nurtured child, or the overcrowding of the tenements, or the overbuilding of the areas, the argument for more spaces and more places is overwhelming, and the special plea for the children's play centre is unanswerable. The play centre is a biological necessity. It means for the swiftly growing child, staying power, versatility, civilisation of habit, companionship of contemporaries, spontaneous organisation of conduct, development of free personality in co-operation with others equally free. It is the first step in citizenship. It is learning "to play the game."

Addendum—Educational Value of Play

In the above chapter I rest the case for play centres on grounds of health alone. But the case is immensely stronger than this limited argument implies. The relation of play to education is as important as its relation to health. In this field the studies have been many and subtle. One of the most interesting is *The Psychology of the Organised Group Game, with Special Reference to its Place in the Play System and its Educational Value*, by Dr Mabel Jane Reaney, with preface by Dr Kimmins, Chief Inspector of the Education Department, London County Council (Cambridge: at the University Press, 1916). This study is a thesis approved for the degree of Doctor of Science in the University of London.

Dr Reaney discusses the meaning of play, the various theories, including the physiological theories—the surplus energy theory, and the recreation theory; the biological theories—the practice theory and the recapitulation theory. The thesis is full of interesting and

carefully guarded conclusions. The following quotations show how closely Dr Reaney follows the psychological discussions of to-day:—

"Turning to the definite psychological investigation of the factors which distinguish playful activity from any other form of activity, we find that it is impossible to separate 'play' from 'work' in the generally accepted sense. Rather should we separate it from that form of work—drudgery—which results in the baulking of instinctive dispositions.[1] In other words, all activity which tends to give free scope for the simple primitive instincts will come under the term 'play.' Such activity certainly seems to show the marked characteristic of 'love of being a cause' and that sense of 'inner freedom' on which Schiller laid such stress.

"The whole activity of childhood when allowed to develop naturally follows these lines and may therefore be described as 'playful activity.'

"It is impossible to say that play has no serious intent. Rather would we suggest that playful activity is that type of activity in which the end is in harmony with the means, and the individual with both. It is not difficult to realise that these forms of behaviour tend to follow the primitive lines of evolution, especially as they are influenced by nervous and somatic development, and it is also probable that by natural selection this form of activity has been made use of as a means of practice and education for future life. When we come to the higher types of play the tendency of the play activities seems to alter. With young children 'play' has the serious object which to adults would mean 'work,' but later 'play' seems to be divorced from such object.

"In the light of recent research by Freud and others it may be that the primitive instinctive tendencies which are necessarily baulked by civilisation have become sublimated and find vent in those forms of play which make use of them without carrying them to their serious end.

"The group game of the Anglo-Saxon represents such a type of play carried to its highest development, and the subject will be discussed in connection with this. This sublimation may be traced in its elementary form even in animals, but the fact that it occurs chiefly in domesticated animals tends to prove the view suggested.[2] . . .

"For I maintain that the only essential characteristic of so-called 'playful activity' is that it is activity which is unbaulked.

"In other words, we may attempt to define 'play' as 'that form of activity in which the end is in harmony with the means, and the individual with both, and in which the primitive instincts have full scope, or are sublimated in such a way that their serious end is not reached.'

"If this definition is accepted, it will include not only the accepted form of play but all the highest ideals of work, and will only leave that drudgery in which the man or animal is forced to work for an end in which his interest is remote and by means which baulk his instinctive tendencies.

"From this point of view, the highest achievement of art and science, the loftiest conceptions of philosophy fall into line with 'play,' for by 'play' is meant that line of evolution in which '*l'élan vital*' has the fullest freedom and scope to achieve its end."

[1] See Graham Wallas, *The Great Society*, Chap. IV. [2] M'Dougall, *Social Psychology*, p. 108.

It is impossible in a note to give a really indicative summary. It is enough to say that no student of the theory of play and its relation to mental development can afford to pass over this careful research. Not the least valuable item in it is the carefully selected bibliography of eleven pages.

By works such as these, the term "child's play" is transfigured into one of the richest concepts of educational theory.

CHAPTER XXVII

DAY-CARE OF CHILDREN: CORRELATION OF PRE-FIVE AND POST-FIVE PLAY CENTRES AND PLAYGROUNDS

1. *Post-Five Play Centres.*—In this long exposition I have assumed that the case for the post-five play centres has already been established. And in this assumption I am justified by the facts. The play centre for children after school hours is a demonstrated requirement. No enlightened body, public or private, concerned with the day-care of children, can be said to have appreciated social wants that does not make the play centre for children after school hours a constant factor in the civic care of children. From many sources, both home and foreign, I could bring evidence to show the value of the play centre for children whose post-school hours are not otherwise provided for. But argument is almost superfluous. Here I introduce the post-five play centre only to emphasise once more the continuity of the child's life from infancy to adolescence. In the preceding chapters, I have failed in my intention if I have not made it clear that, from the crèche to the end of school life, play is essential to the normal physical and mental growth of the child—taking, at the earlier stages, the form of the toddlers' playground or the games of the indoor nursery; taking, at the later stages, the form of the play centre for the post-school hours of the day.

In these discussions, however, I am only re-stating ideas that have a considerable history. The quotations from the Edinburgh Play Centres Association show how the movement began in the city of Edinburgh. The idea once planted soon took root. It had come over the border from London. I remember well when, some years ago, a few interested friends invited Mrs Humphry Ward to come to Edinburgh and tell us of her experiments and experiences in London. It would be difficult to over-estimate what our play centres in Scotland owe to Mrs Ward, who, by a simple record of the work done by the Evening Play Centres Committee in London, placed the local initiations in the imaginative atmosphere of the

larger movement. The work of her committee, formed in the winter of 1904, is sketched by Mr Roper in pamphlet No. 5, prepared by the National League for Physical Education and Improvement, and entitled *Organised Play at Home and Abroad: Physical Recreation for Elementary School Children out of School Hours.* No one that reads this document will hesitate any longer about the need and the value of the play centre. But it is only fitting that, in our short account of a Scottish movement, we should record how much the movement owes to the imaginative sympathy and personal force of Mrs Humphry Ward.

2. *Correlation of Pre-Five and Post-Five Play Centres.*—Play centres, it is well to remember, are places, not mere spaces. They have to be adapted to winter conditions as well as to summer conditions. But experience of the open-air schools, of the kindergartens, of the toddlers' playgrounds, and even of the infectious disease hospitals, is now showing that, however young the children, they profit immeasurably by continuing the open-air life right through the seasons. The fear of exposure is the fear of a fetish. The facts now accumulated in favour of the open-air stimulus for the growing child cannot be countered. But this means that the play centre should, wherever practicable, be a place suited both to the indoor and to the outdoor occupations of the children.

Now it seems clear that fullness of control, systematic treatment of children, effectiveness and economy of administration, all point to a unified and co-operative plan for the pre-five and post-five children. Already, I have suggested that the school playgrounds should, in part, be adapted to the pre-school children; but I also suggest that the schools themselves may, profitably, be so adapted. It is only here and there that such adaptation to the pre-school life could be put within reach of the pre-school children; but I am satisfied that the movement towards child welfare will never attain its full pace until the educational provision, at least for the later stages of the pre-school period, merges into continuity with the provision for the school child. Hitherto, these distinctions of school and pre-school, pre-five and post-five, have been taken somewhat too rigidly, partly because they have a definite support in the statutes, partly because the many agencies for dealing with young children do not all work from the same standpoint. But the time has come

to re-assert the continuity of life from infancy to adolescence and the need for a corresponding objective continuity of administrative system. Later, I suggest that the whole range of activities classified for convenience into the work of crèches, day nurseries, playgrounds, and play centres should be placed in the care of a representative guild of child welfare. By such a guild, the existing education authorities cannot remain unaffected, and through it they will the more readily discover how the interest of the child's later life is one with the interest of his earlier life. This is the inner intention of the recent legislation for the pre-school children and of the administrative regulations by which the statutes are realised.

3. *Conclusion.*—Systematic correlation of the play centres and play places for the school and pre-school children will be carried out differently in different places; but the correlation is simply a matter of detail. It is not tens and twenties, or even hundreds, of children that we wish to see passing to and from the play centres: it is thousands and tens of thousands. But if this policy is to pass beyond the stage of experiment, it calls imperatively for increased correlation of social forces.

CHAPTER XXVIII

OPEN SPACES IN THE LARGE CITIES AND MINING COUNTIES

1. *Need for Small Spaces.*—Let it be said, however, that the play centre does not necessarily mean an open-air play shed. It means an equipped play place whether it be adapted for indoor play alone or for outdoor play as well. Let it also be said that the small open spaces proposed for these specialised playgrounds may, on occasion, be provided in a convenient corner of the large parks or public gardens, but cannot normally be provided there; because, as a rule, those parks and gardens are too far from the children needing the service. To be of use at all, the little places and spaces must be within easy reach of all children under five.

2. *Edinburgh.*—This does not prevent us from recognising the splendid work done by the great cities in steadily increasing the number and variety of their public gardens and parks. Thus, in the fine report prepared by Mr John M'Hattie, Superintendent of Parks and Gardens, Edinburgh, the public parks, gardens, and open spaces of Edinburgh are shown to amount in the total to over 1500 acres—that is, more than thirteen per cent. of the whole area of the city. To keep these parks there are 114 employees. There are 10 golf courses, 85 football pitches, 11 cricket pitches, 20 bowling greens. There are, too, 15 children's open-air gymnasiums, drawing, in the total, some 2670 children per day. The gymnasiums are open for play every day—except, I presume, Sunday—from May to September; and on Saturdays from October till April. These gymnasiums are well equipped with swings, see-saws, maypoles, and joy-wheels; but they are equipped for children of the school ages. None of them, so far as we have discovered, has equipment or superintendence suited to the children of the pre-school ages. No doubt, many children under five go with their older brothers or sisters to the playgrounds; but if they go, they can go only in small numbers and to look on, and, after the first strangeness wears past, they are likely to find observation dull. Young children are not good

spectators. They want to act in the game, not simply to look on. But for these young wishers there is, with the exception of the toddlers' playgrounds and the free kindergartens, nothing but the street, or the close, or the court, or the stair, or, possibly, the balcony. Yet, at their stage of life, they need more than others their own kinds of play; but, unlike the others, they can neither profit greatly by their poor opportunities nor invent methods satisfactory to themselves. The result is that, for two or three years of the pre-school life, the town child suffers from the poor monotony of the pavement and the little spaces he is left to wander in.

To the public parks and gardens sketched in Mr M'Hattie's report, have to be added the many admirable school playgrounds. These, I believe, are now, in some localities, available for children after school hours. But most of them are, if not forbidden, at least forbidding places to the younger children; for they are bare stretches of cement concrete and have infinitely less variety or interest than the poorest close in the High Street. Such equipment as they possess is suited to the older children, and is too dangerous for the younger. Here, however, there is an opportunity not to be missed. There seems to be no good reason why a small area cannot be separated off and properly equipped for the use of the pre-school children, and placed in charge of a trained superintendent. The toddlers' playground already described shows how modest the necessary equipment is, and how readily it attracts the younger children. The school playgrounds form at least one set of areas that could be exploited to much greater purpose than they have hitherto been. If it be said that this is no proper work of a School Board, the answer is easy: it is work that can be arranged for by the Health Authority; and, if equipment, simple as it is, be an obstacle, the Carnegie United Kingdom Trust have intimated that, under certain clear conditions, they are prepared to assist those interested in equipment.

3. *Glasgow.*—If we turn to Glasgow, we find a long list of parks, gardens, recreation grounds, and minor open spaces. The acreage of individual places varies from a minimum of 12 poles to a maximum of 180 acres. In the report of Mr Peter Fyfe, Chief Sanitary Inspector of Glasgow, we find that, in 1914, there were some 37 open spaces and children's playgrounds, varying in individual

instances from 450 square yards to some 12,600 square yards. These playgrounds are well equipped with the "properties" of playgrounds, they are carefully kept, and they attract multitudes of children. In several of those visited a male superintendent was in attendance all day. All this deserves the highest praise. Nothing could be better—so far as it goes. But in none of the playgrounds visited, and I understand in none of the playgrounds under city management, has any provision been made for the specific entertainment of the pre-school children or for their superintendence at play. Our investigators report that such provision could be made with very little outlay. Many of the playgrounds are well situated for younger children, and all that is wanted is either the setting apart of a special hour or a special area for them. This, of course, means added responsibility for young lives; but, if our argument is sound, it is a responsibility that deserves to be faced.

In Glasgow, as in Edinburgh, there are also many admirable school playgrounds; but I am not in a position to say whether they are available after school hours. It is quite certain that, whether they are available or not, there is no probability that Glasgow will soon be over-provided with the many minor spaces needed for its 116,000 children under five.

Apart from the city management, the Scottish Christian Social Union conducts a Guild of Play. In the Fifteenth Annual Report (1915–16) it is said:

> "The various branches of the Guild of Play, numbering eleven, have been meeting as usual this winter. Our only difficulty in some districts is the want of lady helpers. 'The harvest truly is plentiful, but the labourers are few.' Children are crowding to the halls for their weekly treat of games and stories, and their numbers are only restricted by the size of the room or the scarcity of assistants. This, no doubt, is accounted for in these abnormal times by the fact that a great many young ladies are engaged in Red Cross and other war work. Still, there must be very many more who have only to realise the beneficial influence which the Guild of Play has upon our city children for them to volunteer to be enthusiastic helpers in the work. . . . It has lately been said that organised play is likely to become one of the most important features of contemporary educational history. 'Work for the children is better than pilgrimage or Holy War,' says an old Moorish proverb, and 'everyone owes a duty towards children—our own children, everybody's children, anybody's children, nobody's children,' and the Guild of Play seeks to make the lives of our children happier, wiser, and better, and is grateful to all those who by thought, word, or deed will strengthen our hands and help us. . . . Another suggestive feature which the convener met with in her visitation of the branches was in Greenock, where the School Board had granted the use of a school as the evening play centre of the Guild of Play children. The school is surely the child's, and why should not our School Boards of Glasgow and Govan keep open door (under paid or voluntary supervision) where the recreation halls of our palatial school buildings might, in inclement weather, be the scene of the children's play hours, just as in fine weather the school playground ought to be, both during the session and in holiday-time."

Of the children that attend the eleven centres of the Guild of

Play, our investigators were informed that 10 per cent. are under five years of age—chiefly younger brothers and sisters of the children that attend the schools where the Guild of Play meets.

4. *Dundee.*—In Dundee, our investigators found that at two of the schools evening play is supervised, but children attending them must be of school age. No play place was discovered where children under five were superintended. There are several fine parks in Dundee; but, for the reasons already explained, they are of little use for the highly specialised purpose we are now considering. There are also, of course, the school playgrounds, some of them handsomely equipped; but, as our notes show, these are not used for the pre-school children.

5. *Aberdeen.*—In the city of Aberdeen, the conditions are somewhat the same as in Dundee: good parks, good playgrounds for school children, but no specialised play places for children under five.

In two or three other places we have found actual or proposed provision of play centres; but practically nowhere have we found evidence of any systematic effort to provide for the pre-school children.

6. *Mining Counties.*—In connection with the work of the Royal Commission on Housing, I have spent ten days in inspecting the villages of the mining counties. In the great majority of the villages no provision is made for children of any age, and none specially for children of the pre-school ages. In one beautiful village of the shale-mining district we found a well-equipped playground, a part of which could very readily be adapted for the very young children. But in this particular village the general conditions were so good, the gardens were so well kept, and the spacing of the houses was so generous that no child of the pre-school ages could grow up without absorbing an endless variety of impressions from the rich natural surroundings. This was an exception. Normally, the miners' rows or groups of rows are meaner than the meanest of mean streets in the cities. They are wearisome in their monotony. They are often badly situated. They are, in many places, so primitive in their sanitation that they outrival in nastiness the filthiest of city slums. But, as a rule, they are teeming with children of fine inheritance

and personal vigour. In those areas, as in the city areas, the opportunities for improving the environment of the children are endless. Even where play places exist, they are frequently not available for the children, and that for a special reason: the system of shifts always leaves some men free, and they tend to monopolise the spaces available for play. In one place a mother complained that, though a play park was quite near, it was never safe for the children, because some men were always at play there. Here, as in the cities, the grown and strong win; the ungrown and weak lose, just as if civilisation had not yet taught us the primary lesson of social life, that the child is the growing point of society, and that, among our modern morbid complexities, it cannot thrive without organised care.

7. *Conclusion.*—What is true of the large cities is true of the towns generally. But it is clear that the cities and towns have failed to provide play places for the younger children mainly because they have not realised the children's needs. Unlike the school children, the pre-school children are not yet organised into easily managed masses. From the nature of the case, the masses can never be great, or, if they become great, they will fail in the objects of organisation. The younger the child is, the greater is the need for individual attention. The limiting case is the new-born infant, who requires almost the whole time of his mother for months. The problem, therefore, is not so much a problem of expense as of specialised thinking.

CHAPTER XXIX

DAY-CARE OF CHILDREN: EDUCATIONAL ASPECTS

1. *Kindergartens.*—Up to this point, the institutions for the day-care of pre-school children have been considered only in their physical aspects. But their educational aspects are of equal importance. This is fully recognised in the latest circular issued by the Local Government Board for Scotland. In that circular the term crèche, or day nursery, is interpreted in the widest sense. It includes outdoor and indoor play centres, children's gardens, or equivalent institutions for the day-care of children under five. These terms are terms in the vocabulary of health; but the facts would be largely covered if, instead of using play centres, or children's gardens, we said nursery schools, kindergartens and school playgrounds, which are terms in the vocabulary of education. As a fact, institutions provided from the health standpoint necessarily become institutions for education. The term "children's garden" used in the Board's circular is not a translation of the more familiar "kindergarten," nor is it intended to be. But a children's garden, where it can be found and organised, is always the best place for the work of a Froebelian kindergarten. A children's garden and a garden of children have intimate relations; for the real garden always suggests the figurative garden. Growth is not more real in the flower than in the mind of the child; the growth of the one keeps suggesting the growth of the other. Where no garden can be had, the work of a Froebel course can still proceed; but with a difference. The subtle suggestions of Nature are of infinitely more effect than the invented suggestions of the most skilled teacher. That is a fundamental reason for educating the child in an environment of Nature's growths—and that is a garden. But the garden is to be interpreted in the functional sense—that is, as a place where the child mind of the city can be brought into association with the growing grass, the expanding flower, and the living animals of the soil and field. Under imaginative direction, a little green corner soon grows into a peopled world.

2. *Montessori Groups.*—The conceptions of Pestalozzi and Froebel have been before the western world for nearly a century. The Montessori method is only a few years old; but it has already produced its large crop of schools and touched the minds of the keenest directors of education. Recently, at the Edinburgh visit of the Child Welfare Exhibition, Miss Bremner, Mistress of Method under the Edinburgh School Board, arranged demonstrations of the work done by two Montessori Groups from Board Schools in Edinburgh. Nothing could be more fascinating. From her long experience of infant schools, and her foreign studies, Miss Bremner knows what value to place on the new methods and how to use them for the education of large classes. This is not the place to discuss details. It is enough to say that the Local Government Board for Scotland recognise that in all the places for the day-care of children it is essential to develop the educational as well as the hygienic aspects of institutions, and that, among the methods for promoting the mental development of children, the Montessori methods should have their place with the others.

In the play centres for pre-school children the student skilled in the modern methods of education will find unrivalled opportunities. From this standpoint, the following excerpt from the Board's latest circular has a special interest :—

VII. Crèches and Day Nurseries

A grant in aid of crèches and day nurseries (including outdoor and indoor play centres, children's gardens, or equivalent institutions for the day-care of children under five) will be paid to a Local Authority in respect of the net maintenance expenditure on facilities provided by the Local Authority or in respect of contributions made by them to voluntary institutions providing those facilities.

In making arrangements for day nurseries, which include play centres, children's gardens, or equivalent institutions for the day-care of children under five, the Local Authority should keep in view that such institutions, although they are organised primarily from the standpoint of health, necessarily involve also some provision for the educational control of the children. Every properly conducted day nursery, or play centre, trains the children in habits of personal cleanliness, but the actively-growing minds demand also some guidance from persons familiar with the many special methods of promoting the mental development of children of the pre-school ages. The superintending staff of such institutions should, therefore, include a certain proportion of women trained in those methods. In considering any schemes that include day nurseries, play centres, or equivalent institutions for children under five, the Board will act in concert with the

Scotch Education Department, who will be consulted as to the qualifications of the women appointed to take charge of the educational work of the institutions. It is not suggested that every day nursery should make special provision for educational control, but in making their arrangements the Local Authority should see that, wherever possible, the women in charge of the day nurseries, play centres, or children's gardens have themselves sufficient training for the type of educational control required, or that the assistance of a trained person is available. The salaries of the persons appointed for this special work will rank for grant.

3. *Conclusion.*—In this short series of chapters on the day-care of pre-school children I have tried to show how ideas long familiar to students of human growth may now be supported and developed by the ordinary civic administrations. Education is the fine flower of all our efforts. But the education must be supple and fresh. It must wait on Nature and do honour to the originalities of instinct. Education is the superintendence of growth.

The next chapter shows how these general ideas are realised in some city kindergartens.

CHAPTER XXX

DAY-CARE OF CHILDREN: THE KINDERGARTENS

THE kindergartens ought to have a place in every large scheme of child welfare. The term is to be taken in the widest sense. It should include nature study, the Montessori methods, and all related educational methods for promoting the mental growth of children. Fortunately, we are able to give an account of several city kindergartens, mostly "free" kindergartens. The subjoined report is the result of special inspections made for the purpose of this inquiry.

THE EDINBURGH AND GLASGOW KINDERGARTENS, BY MRS LESLIE MACKENZIE, F.E.I.S.

I. *Provision in Edinburgh*

(1) *Reid's Court Free Kindergarten.*—On 4th May 1916, Miss Ireland and I began visiting some of the existing institutions for the day-care of children. Our first visit was to the Free Kindergarten at Reid's Court, Canongate. This was the pioneer kindergarten in Edinburgh and came into existence some fourteen years ago. A former infants' mistress in Milton House Board School was deeply impressed by the wretched condition of many of the Canongate children while they attended her department. During her lifetime she did much to help them, and in her death they were not forgotten. By her will she directed that all her savings should become the nucleus of a fund to start a Free Kindergarten for Canongate children. A group of her friends and other friends of children formed the first committee and took for their motto: "The best work of the nation is to save the children." Sufficient funds were collected, and in 1903 the kindergarten was opened in a small hall in Galloway's Entry, Canongate. In the following year it was removed to Reid's Court, and there the beneficent work is still carried on.

The two-flatted house with its beautiful garden gives the home-like atmosphere that should always differentiate the kindergarten from the school. The ground-floor rooms are reserved for the occupations of the children and are suitably furnished and decorated—linoleum-covered floors, properly guarded coal fires, nicely distempered walls, with pictures, drawing-boarding, etc., round the walls at the children's level. Small chairs and low tables are provided for the children's use, but, except for certain sedentary occupations, sitting is the least part of life there. The occupation rooms have a sufficiency of toys, with some cupboard accommodation for their tidy keeping. A large doll's house seems an essential feature. One or two birds in cages, some growing plants and cut flowers, and a piano complete the

equipment of charming rooms. One room is used for meals and for sleep. It has for lunch purposes small chairs placed at long low tables; when these are removed their place is taken by small stretcher beds with warm rugs for the children's use during their afternoon sleep. A small kitchen, supplied with hot and cold water, presented a very busy scene when the lunch dishes were washed and dried and put in their proper places by the children. The cloakroom is provided with a low peg for each child's outer clothing; each peg is individualised by a colour picture chosen by the child. There is the usual lavatory accommodation. Here hand-washing and tooth-brush drill are carried on.

The kindergarten is open on five days in the week from 9 a.m. till 3.30 p.m.

Here, as in all the free kindergartens, Froebel's conception of education as moral and religious, no less than as intellectual, receives full honour, each institution preserving its own formula and its own ceremonies.

There is a daily attendance of twenty-five to thirty children, ranging in age from two and a half to five years. As a rule, they arrive in a clean and tidy condition. The first duty of the day is hand-washing, hair-combing, and replacing the outdoor coat by the indoor overall. Each child has an individual towel, tooth-brush, cotton handkerchief, and pinafore.

During the week-ends the mothers wash the pinafores and towels, which are brought clean to the kindergarten on Monday mornings. The handkerchiefs are washed in the kindergarten.

There is no systematic medical examination, but a Deaconess Nurse visits once a fortnight and examines heads and gives any slight necessary treatment of sores. When medical attention is required, the child is given a card of introduction to a doctor. The rooms are disinfected every second day in winter and every week-end in summer.

The staff consists of a fully-trained kindergarten head mistress, a paid assistant, and voluntary helpers.

The usual kindergarten games, etc., occupy the younger children, and Montessori methods are used with the older ones that are about to leave the kindergarten for school.

A mothers' class is held at the kindergarten once a fortnight, when lessons in cutting-out and making of children's clothes and in cookery are given. Once a fortnight, from 4 till 5.30 p.m., the former pupils return for play in the garden.

We were informed that the committee aim at using an empty upper room for remedial gymnastics if they could collect sufficient funds to acquire the apparatus.

A kindergarten of about this size conducted on the above lines requires an annual income of about £200.

(2) *East Adam Street Free Kindergarten* was established by former students of the Provincial Training College. It is wholly financed from their subscriptions and donations, and is under the management of a committee of those students.

The premises consist of a ground floor in a small house. There are three rooms and a kitchen. As no garden is attached, the children have the use of a neighbouring garden.

Twenty-five children are accommodated here, ranging in ages from two to five years. The kindergarten is most popular in this district, and the head mistress gave an amusing story of a little child who, as she said, "had battered himself in." As the kindergarten was full, he was refused admission; but he would take no refusal, and sat on the door-step all day until he learned to turn the door handle. After that, he could not be kept out.

As the garden is at a little distance from the house, and journeys to it are at set times, much ingenuity has to be exercised in finding indoor occupations. But the children joy in the sweeping, dusting, polishing, watering of plants, and all kinds of house-work. Nothing so delights a child as to feel grown-up in doing "mother's work." We saw wonderful specimens of their drawing and modelling. One child's criticism of the Board School, to which she had gone, was "I like the big school fine, but they gie ye nae wark tae dae."

The lunch is the same formal function as in most kindergartens, and consists of the usual "piece," and the children here pay 3d. per week for their milk. After their mid-day dinner at home, they come back to the kindergarten and sleep till 3 p.m.

The mothers' meetings in East Adam Street are held in summer once a fortnight from 8 till 10 p.m. Tea is prepared by the mothers in turn. They also recite or sing or sew, and frequently discuss their families. The mistress of this kindergarten sets a high value on these social meetings and discussions.

All kindergarten workers find that their influence is in direct relation to the friendly attitude of the parents to the kindergarten.

(3) *Hope Cottage Child Garden* is situated on the south side of the town. It is entirely financed by voluntary subscriptions and is managed by a small committee of the subscribers. As this institution is without any endowment fund, special efforts have to be made annually in order to secure an income. These usually take the form of "At Homes" or garden-parties during the summer months. Thus the interest of a growing circle of supporters is maintained.

An old-fashioned house with a large garden, open-air shelter, sand-pit, etc., become ideal surroundings for the twenty-five children accommodated here. The ages of these vary from two and a half years to five years.

From this kindergarten the children are drafted into the Causewayside Public School, whose teachers take a special interest in the kindergarten. But the children's criticism of public school methods is, "They dinna tak ye walks at the big school." To meet this criticism, the mistress has arranged that on Wednesday afternoons from 4 to 5.30 the "old children" come back and go walks and play with the toys and sing the songs most beloved in their child-garden days.

The children are medically examined once a quarter.

In a recent report the mistress writes: "The standard of health and regularity of attendance has, from the beginning, been wonderful." She attributes to the "fresh air, the afternoon sleep, and, not least, to their happy ordered lives the improved healthy physique" of the children. She further writes: "It is interesting to see the increasing efficiency and concentration

with which work is done, whether it be washing a duster, buttoning an overall, setting the lunch table, washing up the dishes, or building a castle. Among the children a great spirit of helpfulness, patience, and good-fellowship is also increasingly evident." And, all the time, it is of little children of two and three and four years that this can be said!

A summer fortnight at the Humbie Holiday Village brought to the consciousness of these slum children a new world. Its memory lasted all through the following year, and the question, "Div ye no mind when we was at Humbie?" is the frequent indication during the winter of how much the holiday means.

The usual routine of kindergarten work is carried on here by the trained kindergarten mistress and one or two voluntary helpers.

Besides the play centre for "old scholars," the mothers' club meets in the kindergarten during the winter. These meetings take the form of social evenings for games and music, sometimes a lantern lecture, sometimes health talks and cookery demonstrations.

(4) *St Saviour's Child Garden* is situated in Chessel's Court, Canongate. It is associated with St Paul's Episcopal Church, and is wholly maintained by voluntary contributions and donations.

The premises consist of a ground-flat in one of the famous old houses in this Court. There are several beautifully panelled and decorated rooms with a fine southern exposure. These lead into a large and picturesquely arranged garden, with several open-air shelters, pigeon houses, rabbit hutches, etc. During the summer months the training and occupations of the children go on almost wholly in their garden.

A Queen's nurse visits the school every morning, when any little sores are attended to, and eyes and ears bathed when necessary; anything more serious is sent to a neighbouring dispensary. The children are weighed and measured periodically by the mistress, and a complete record of this, along with any of their ailments, is kept.

The staff consists of a head mistress trained in kindergarten methods, trained assistants, and some voluntary helpers. The routine of the institution is pretty much as follows:—

At 9.10 a.m. the children are inspected by nurse, put on their pinafores and rubber shoes, and immediately begin their much-loved housework of polishing the brasses, sweeping, dusting, tending pets, watering and arranging flowers, etc.—all with a view to the preparation for prayers, which are held in one of the rooms, the chief feature of which is a small oratory table, with crucifix, candles, and flowers. The training of children as good members of the Church of England is one of the objects of this institution. The head mistress put the theory of her system to us as "morals first, health second, education third."

Following the daily religious exercises, tables are set for the "forenoon piece." The little children do this with great goodwill, and are trained to spread the white cloth and lay the china plates and enamel jugs and arrange the lunch that each child has brought. This usually consists of bread and jam or syrup. Milk is given to those that bring ½d. per day for it. Lunch over, the dishes are washed by the children and are put into their proper

places, and the room is prepared for games. When the weather is fine, the garden is the game-ground; and other groups of children may engage in gardening or have a Froebel occupation by trying to reproduce in sand, etc., the object upon which they have been at work.

After this strenuous time in the garden, the dinner hour comes at 12.15; almost all the children stay for this. One penny per day is brought for dinner, which is supplied by the School Board from their common kitchen at a daily charge to the kindergarten of 2s. 1d. Dinner becomes a great function, religious, social, and educational; good table manners are remarkably easily acquired, and very largely from each other. One child was heard to say to another that was acting against the common feeling of good manners, "Whar's yer polish?"

Discussion of dinner and food generally elicits strange comments. As one infant remarked, "I had three dinners at hame, soup, tatties, and tea." One Monday morning an infant arrived proudly stating that she had had rabbit for her Sunday dinner. The children's absolute devotion to the school bunny made them incredulous. "Think o' eating a wee bunny"; and the little one was made to feel the great wrong when another tried to smooth matters down by saying, "Och, it wisna a *bunny* rabbit, it was a beef rabbit what hangs in the shops."

When dinner is over the children sleep in the garden or shelters until three o'clock. After sleep, some time is occupied in folding and replacing the sleeping apparatus, and the rest of the time is devoted to organised games and free play. The kindergarten children proper get ready for home; outdoor coats, hats, and boots replace the school garments, and, after a little closing ceremony, the children proceed to their homes. The mistress of St Saviour's has a small number of children that she retains over the age of five. She is conducting an interesting experiment in seeing the effect of "kindergarten methods" on older children.

About 4.30, these older children and former pupils return for play until 6 p.m. Sometimes there are as many as sixty children during this period. In the spring and summer the greater part of the gardening work is done by those children; in winter, the time is devoted to organised games, free play, and any special work the children may be engaged upon. At the time of our visit, sand-bags for the soldiers were being made.

The auxiliary interests of this child-garden are similar to those of others. They include a Mothers' Guild, which meets once a fortnight, when health, education, or moral talks are given. Once a month the meeting is purely social. The mothers have to promise to put the children early to bed; to send them to school and to Sunday-school; to see that the children say their prayers; and to see that a good standard of language, manners, etc., is kept in the home.

There is a sale twice a year, when mothers can buy clothes second-hand or at half the ordinary price.

Year after year many of us look forward to the annual summer gathering of friends in the St Saviour's Child Garden, when a varied entertainment is given which would do credit to much older children. It then becomes evident that, in the training for such functions, neither the self-conscious shyness nor the aggressive "show-off" of so many young children need mar the joyousness of a well-ordered kindergarten.

DAY-CARE OF CHILDREN: THE KINDERGARTENS

Miss Hardy's *Diary of a Free Kindergarten*, the daily story of St Saviour's Child Garden, is a classic, and all lovers of children and believers in growth should have it by them. It is a string of pearls.

(5) *Gilmore Place Kindergarten* was established in 1908 by the Edinburgh Provincial Committee for the Training of Teachers. It is managed and entirely financed by the Provincial Committee. Their intention in establishing this kindergarten was to have a centre where experimental work in kindergarten methods could be undertaken. The kindergarten was to become a centre where (1) "Students in training" should be trained in scientific methods of dealing with very young children; (2) students might develop their own methods and study the early instincts and habits of children; (3) an effort could be made to follow up the progress of the children who had passed from the kindergarten to Gilmore Place Board School and to compare their progress with that of non-kindergarten children of the same age in the same class; (4) by close study of all the conditions of child-life in this district, and also of the effect on the children of the regularised daily life in the kindergarten, it was hoped to be able to estimate pretty accurately what were the mental, moral, and physical benefits to the children; and to what extent the kindergarten methods and habits could be reflected in the homes of the children.

To superintend these social and educational experiments, a trained kindergarten mistress was appointed, with necessary assistants.

46 Gilmore Place is a suitably constructed, two-flatted house with good garden and playground. Appropriate bathroom and lavatory accommodation is on the ground floor.

There is a roll of thirty children whose ages range from two and a half to five years. The daily average attendance is twenty-three.

The usual kindergarten routine is observed. A daily dinner is supplied, for which the children each pay one penny; extra halfpenny for milk at "piece-time." A special voluntary dinner fund meets any deficiency here. The head mistress stated that "the children show great improvement after a meal. The temperamental effect is expressed in greater satisfaction after food. Sometimes through hunger they appear stolid and enduring; but half-way through dinner they become more lively, and are quicker in the intellect when the meal is finished. This is seen more distinctly in the first few weeks of the term than later." Mistresses in other kindergartens made similar statements.

At the end of several years' work, the mistress was able to give the following "proofs of benefit to the children":

"*Physical benefit*, (1) increase in weight and height; (2) increase in bodily and nervous control; (3) growth in the children themselves of personal responsibility for their cleanliness of body and clothing, habits, etc."

"*Mental and moral benefit*, shown by marked improvement at the end of the first year in:—(1) greater response to all sense-stimuli, especially tactile power increased; (2) greater promptitude in obeying commands and answering questions; (3) the extension of their vocabulary; (4) the acquiring of self-control, courage, orderly behaviour, and good manners."

The mistress reports: "There is an increasingly appreciative attitude

on the part of even 'the bad homes.' Mothers' letters and requests for advice become more frequent and increased attention is paid to messages 'sent home.'"

II. *Provision in Glasgow*

The Phœnix Park Kindergarten Association aims at carrying on one kindergarten and "kindred work." Membership of the Association is open to members and associates of the Laurel Bank Old Girls' Club, mistresses and old girls of Woodside Crescent School, and other subscribers. The Association has the usual honorary office-bearers and a general committee of ladies and gentlemen interested in the work. The executive committee consists of fourteen members.

The Association is supported by voluntary subscriptions and donations and kindergarten fees. For the year ending 31st August 1915 the amount received, including balance in hand, was £214, 4s. 11½d.; the amount spent in connection with the kindergarten was £204, 7s. 10d.

The kindergarten was opened in 1912, and now has thirty-three names on the roll. It was stated that the waiting-list is so large that another centre could be filled if sufficient funds were available.

Before a new child is admitted, the case is always fully investigated, as "admission is granted only when it is really helpful to the family."

The children's fee is 10d. per week, and a reduction is made when two children attend from one family. In some cases, however, parents voluntarily pay 1s. per week per child, and think the money well spent.

Dinners, from a menu drawn up by the special advice of a medical woman, are given to the children at midday.

In summer the children are taken for a fortnight to the country; and once a week former pupils may come to the kindergarten for an hour of songs and games under supervision.

The staff consists of one trained kindergarten mistress, with voluntary assistants.

The kindergarten is situated practically at a corner of the great Phœnix Park, and is a wooden bungalow with covered verandah at the entrance. The verandah is a play place in wet weather, while on fine days the garden with its sand-pit and baby swing is the scene of many activities. The building was designed for the purpose of the kindergarten and fulfils all its requirements. The large room can be divided into several rooms by means of folding partitions. Each room is lighted from one side, and beautifully decorated and furnished with modern kindergarten furniture.

The kitchen, cloak-rooms, lavatories, and mistresses' rooms are on the opposite side of the passage from the class rooms, and are all fully equipped.

All kindergarten activities are enthusiastically carried out, and one longs to see many, many more institutions of this type in the crowded corners of Glasgow.

III. *General Conclusion*

We have given only something of the detail specific to the different kindergartens, but it is enough to show how valuable to the rapidly growing organism and to the developing mind is the well-ordered life of a nursery

school or child garden. In the day-care of young children these centres of safety, freedom, love, and guidance should become an essential feature of all child welfare schemes. The Edinburgh scheme includes four of the free kindergartens, and, by providing a money grant and medical supervision, encourages the work and relieves a little of the worry of collecting all the funds. The salary of the trained kindergarten teacher is always the most expensive item, and, where the Local Authority makes itself responsible for that item, voluntary contributions may be depended upon to do the rest. When, however, the community as a whole realises with sufficient intensity that a child's social birthright is liberty to live and to grow, the Local Authorities will not fail to give effect to the common conviction. And do not let fear of the cost drive the new movement in nurture away back into the dark corners of yesterday. In rearing the good race of to-morrow, the nation must look to the children of to-day.

On this my friend Margaret Macmillan speaks with her usual felicity, adding to the inspiration of her deeds at Deptford the inspiration of beautiful words :—" Slowly, slowly the new edifice of to-morrow comes into sight—the educational edifice of the future. First of all one sees its glancing light pinnacles, its universities thronged with youths and maidens of every order and degree, its gleaming doors on which are written the symbols of happier generations. A little later swims into the ken of many a vision of noble rooms and workshops where millions of boys and girls will learn and work through the happy years of dawning youth. Yet the key to real success is not in these. The new life is not there. Eye hath not seen it as yet on this planet. For what nation has ever cared to remember in planning its systems that the revelation of life is not in the upper world of action of youth and boyhood, but in the dim underworld of infancy and sub-consciousness ? Yet to include that underworld in one's plans is to plan wisely. Forgetting it, one may find that the glancing light pinnacles are a new mirage and the stately class-rooms a new delusion."

CHAPTER XXXI

PROVISION OF NURSES IN SCOTLAND

1. *The Queen's Nurses.*—The largest organisation for the provision of trained nurses is the Queen Victoria Jubilee Institute for Nurses (Scottish Branch). The 27th Annual Report was issued in 1915. The institute has sent trained nurses to every locality of Scotland. The following excerpt is taken by permission of the Highlands and Islands Medical Service Board from a letter addressed to that Board by Miss Jean M. Graham, secretary of the institute. The excerpt sufficiently indicates the nature and scope of the institute's work. Miss Graham emphasises the points that experience has shown to be important. Miss Graham has also furnished me with other materials regarding the work of the institute; but space forbids the full use either of those materials or of the scores of reports we have collected from the local nursing associations, affiliated or unaffiliated, with the institute. There is, indeed, room here for a special and elaborate report. It is difficult to overestimate the value of those nursing associations to the localities and of the institute as the central organising agency. The institute has not only succeeded in placing large numbers of trained nurses; it has had indirect effects that are quite as important. It has stimulated the whole social interest in nursing and led to the creation of nursing associations everywhere, although not all have fallen in with the formality of affiliation. Like the Red Cross in the military world, the Q.V.J. Institute must be regarded as an organisation of the highest beneficence in the civil world. A generation of active work has prepared the way for further adjustments between the medical profession and the nursing profession. A statutory lead has been given in the Act constituting the Highlands and Islands Medical Service Board. In this Act, medical service expressly includes nursing. Under the new powers of the Local Authorities for the framing of child welfare schemes the same principle appears. This alone is a very important step in the integration of health services.

PROVISION OF NURSES IN SCOTLAND

Queen's Nurses.—As its title signifies, the institute was founded by the late Queen Victoria in 1887, part of the Women's Jubilee Offering being donated by Her Majesty to form an endowment fund for the provision of a body of fully-trained nurses with special equipment for district work in the homes of the sick poor. The Scottish branch of the institute came into existence the following year, and, under the direction of its council, a training centre for Scottish Queen's nurses was opened in Edinburgh. With the exception of an annual grant of £400 from the original endowment fund made by the council of the institute in London to the Scottish branch, the work has been carried on and extended throughout the past twenty-eight years mainly through the generosity of the public and by funds raised on special occasions such as at the Diamond Jubilee and later in Commemoration of Her Majesty. The Central District Nursing Home, 29 Castle Terrace, Edinburgh, serves a double purpose, viz. that of training the nurses, who are sent, when ready, to take up districts of their own in all parts of Scotland, and also as a centre for the nursing work in connection with the sick poor of the city.

Eligibility in order to train as a Queen's nurse entails that the candidate must be a fully-trained nurse, *i.e.* must have had at least three years' training in a general hospital, recognised as a training school, before she can enter for her district training. In some instances the institute makes itself responsible for the whole training of a nurse, by arranging for the candidate to enter hospital for the requisite general training, and thereafter receiving her into the training home to complete her training as a district nurse.

Practical Training.—The nurses (twenty-five in number at a time) reside in the Central District Training Home, 29 Castle Terrace, during their period of training in district work. The course occupies six months, with an additional four months' training in the event of the nurse being trained as a midwife. The district nursing work in Edinburgh is undertaken by these nurses under the constant supervision of a staff of highly qualified district superintendents, who, themselves Queen's nurses of long standing, accompany them on their rounds from house to house, guiding, advising, and instructing them in the many problems and unexpected situations with which the district nurse is faced. They learn to adapt themselves to circumstances very different to those pertaining to hospital life, where aids of every description were made available for their work, but which in district nursing must be done without, or some simple means substituted on their own initiative. Particular attention is paid to the ventilation and cleanliness of the homes they visit, and to inculcate lessons of thrift and economy. Much time is occupied in the nursing of mothers and babies, and advice given as to the care of the infant's eyes, feeding, clothing, and sleeping arrangements; and, as opportunity offers, an interest is shown in the welfare of the older children; while special attention is given to ailments such as eye, ear, and throat affections. Queen's nurses thus combine with their purely nursing work that of the health visitor or preventive agent.

Theoretical Training.—The six months' training in district work includes courses of lectures on the following subjects:—hygiene, foods and fevers, midwifery, tuberculosis, social economics, and sick-room cookery, in which the nurses are examined by the lecturers on the termination of their course,

and they have finally to sit the examination of the Queen's Institute which is held simultaneously throughout the United Kingdom, and by the results of which, coupled with the reports of the superintendents and inspectors with regard to their practical work, they are admitted to the roll of Queen's nurses. On completion of training, the nurses are under agreement to serve the institute for two years wherever they may be sent, or in the case of those nurses who have been given the additional training to enable them to act as midwives, for two and a half years.

Affiliation.—District nursing associations desiring to employ Queen's nurses are required to enter into affiliation with the Scottish branch before their request can be complied with. The conditions of affiliation laid down include the following :—The association agrees to be subject to the existing regulations of the institute as regards their nurses' work ; to employ none but Queen's nurses ; to facilitate the Council making periodical inspection of the nurse's work ; to submit their constitution and rules for the approval of the Scottish Council.

Inspection.—Queen's nurses are subject to inspection from headquarters at least twice a year. This inspection and supervision is professional in character and is made in order to keep up a high standard of efficiency. These visits are a source of help and encouragement to the nurses and also to their committees, as any little difficulty or uncertainty about the work can be discussed and set right.

The foregoing facts may perhaps serve to show that the nurses trained by the institute for district work are, by the comprehensiveness of their training, fitted to take part in the districts in which they may be placed in the work of health visiting, school work, tuberculosis work, or in any branch of public health work connected with infant welfare. The Scottish Council continually aim at keeping their nurses abreast of the times, and alter or enlarge their curriculum accordingly.

2. *Number of Associations and Affiliated Associations.*—In the year 1915 there were 413 nurses on the roll of the institute. There were 266 nursing associations in affiliation with the institute. Of these associations, 46 employ more than one nurse. In all, 258 nursing associations employ Queen's nurses. One hundred and fifty-five of the associations receive grants from Parish Councils in respect of work done under the Poor Law. These figures are enough to suggest the extent of the nursing provision for Scotland. It is, however, to be remembered that the Queen's nurses are all fully-trained nurses. Many associations employ nurses either not fully trained or trained only in maternity work. Neither does the institute list include midwives in private practice, of whom, as we have seen, there are over 2000 in Scotland. Further, the institute nurses, as a rule, do not nurse cases of infectious disease except on occasion and by special arrangement. For infectious diseases the

Local Authorities for public health provide outdoor nurses of their own, when necessary. In the chapter dealing with the Highlands and Islands, information is given of the arrangements required under the schemes of that Board. If we are to frame an adequate estimate of the total nursing service of the country, we must include the Queen's nurses, the partially trained nurses from other institutions, the nurses trained in maternity alone, midwives, outdoor nurses for infectious diseases (including tuberculosis), and school nurses. I am not able to give even an approximate figure of the total nursing service, but the figures at our disposal are enough to show that it is very large and varied.

It is, to my regret, impossible to summarise in any sufficient way the data furnished by the large number of nursing associations from whose secretaries we have received information. But, as I have said, this is matter for a large special report, and, in the light of the rapid developments now proceeding everywhere, such a report would be a public document of value.

3. *Queen's Nurses in Official Schemes of Child Welfare.*—In several counties, as may be gathered from the summary of schemes, arrangements are in process or have been carried through for utilising the services of the local nursing associations. The county of Ayr is a special example. These proposals, the Local Government Board have provisionally approved. In this way the voluntary nursing associations are brought into relation with the official Local Authorities, and I have little doubt the arrangements will lead to the most gratifying results. The same may be said of the proposals to combine the nursing services now employed in connection with tuberculosis, school medical inspection and treatment, and the welfare schemes for the pre-school children. These independent administrative growths are now passing into a single organised system.

4. *Conclusion: Nurses as Health Visitors.*—In many places Queen's nurses have been appointed as health visitors. Undoubtedly, the special district training is a good groundwork for health visiting. But I mention the point here rather to indicate how the art of nursing necessarily becomes specialised as preventive medicine comes closer to the facts. The health visitor of the future will not supersede the nurse, but she will always have in her curriculum some training in nurse's work. This I show in two subsequent chapters (XXXIII–IV).

CHAPTER XXXII

MEDICAL SERVICE IN THE HIGHLANDS AND ISLANDS

1. *The Dewar Committee and its Report.*—The Report of the Dewar Committee (Chairman—Lord Forteviot of Dupplin, formerly Sir John Dewar, Bart.) on the Conditions of Medical Service in the Highlands and Islands is dated the 24th of December 1912. The report was one of the many fruits of the National Health Insurance Act. When the Act was still under discussion, it was common knowledge that the industrial conditions of the Highlands and Islands were not on the same plane as the industrial conditions of the rest of Scotland. An Act designed for a population of wage-earners was not likely to meet the special needs of communities of smallholders, or crofters, or crofter-fishermen. It is true that, even in the Highlands and Islands, the number of wage-earners is considerable, amounting, on an average, to about one-seventh of the total population. But a system of medical service based on the assumption that at least a fourth of the population would be insured was not likely to be adequate for a population where only a sixth to a seventh were insured. The case was admitted; but it was reserved for "special treatment." The Dewar Committee was the result.

The Committee made a tour of the Highlands and Islands, taking evidence at convenient centres and visiting for themselves many of the areas that gave rise to the greatest difficulty. The Report is a striking study in the geographical aspects of medical service. Regions rugged, roadless, and mountainous; thinly-populated islands separated by dangerous and stormy sounds; peninsulas margined by scattered townships and guarded on the land side by impassable mountains, on the sea side by difficult lochs; glens with a few inhabitants living thirty or forty miles from a doctor; poor populations tearing a living out of stony moors or peat bogs and varying their monotonous struggle by seasonal excursions to the fishing centres of the east and north; local rates fantastically high and local service farcically inadequate; public health services re-

acting only to periodic fever panics; Poor Law services struggling to keep from bankruptcy; high subsidies to induce doctors to come into areas remote and melancholy; nursing largely in the hands of philanthropy; hospitals far away or poorly provided; uncertified deaths at a phenomenal figure; expectant mothers at the mercy of distance and the winds and the waves; children unexamined and untreated; tuberculosis promoted by every device of insanitary smallholderdom or fisherdom—these, in a hundred varieties, some better, some worse, were the harvest of this rapid tour. The Report and the evidence are full of important illustrations of poor social organisation. The Committee, appointed in August, reported in December. Money, it is said, was promised within a week. Parliament confirmed the promise, and the Highlands and Islands Fund was created.

2. *Highlands and Islands Medical Service Board.*—After the usual inter-departmental discussions, an Act was passed "to provide a special grant for the purpose of improving the medical service in the Highlands and Islands of Scotland and for other purposes connected therewith." Medical service here, for the first time, includes nursing. The Act established a special fund, which must be applied under schemes prepared by the Board and approved by the Secretary for Scotland with the consent of the Treasury. The purpose of the schemes is to improve medical service (including nursing) and otherwise to provide and improve means for the prevention, treatment, and alleviation of suffering in the Highlands and Islands of Scotland. The Act makes it possible to establish a Local Authority for the administration of the grants, or a joint committee of Local Authorities; but, hitherto, no such Local Authority or joint committee has been appointed. The Board retains in its own hands the whole administration of the schemes prepared and approved.

3. *Nature of the Schemes.*—The Board has prepared seven types of scheme. These schemes provide machinery for the administration of the following grants:—Grants to medical practitioners; grants to district nursing associations; grants towards capital expenditure and maintenance of hospitals, and for ambulance services; grants towards the provision or improvement of houses for doctors and nurses; preliminary proposals in regard to grants for specialised

services; grants towards the extension of telegraph and telephone facilities in connection with the medical and nursing services; employment of doctors and nurses by the Board; special emergency scheme. In their agreements with medical practitioners, the Board lay down certain conditions :—

> "After careful consideration it was resolved that, for the present, the scheme should apply to the families and dependants of insured persons, uninsured persons of the crofter and cottar classes and their families and dependants, and others in like circumstances to whom the payment of the practitioner's ordinary fee for medical attendance would be an undue burden, and that the fees chargeable to such persons should *not exceed* five shillings for the first visit and two shillings and sixpence for each subsequent visit in the same illness. The maximum fee in midwifery cases (including fees for any subsequent visits that might be necessary) was fixed at £1.
>
> "It is an essential part of the Board's scheme that these fees should be the same whatever the distance of the patient from the doctor's place of residence."

Fees are not abolished; but the great obstacle of distance is eliminated. This alone is a very far-reaching change. But there are other conditions: the doctor must "visit systematically, and when asked to do so, all persons in need of medical attention." In a single-practice area he is required to give attention to Poor Law patients and to insured patients, and also to undertake such duties as the public health authorities of a district may require of him. In midwifery cases he must, wherever practicable, give personal attendance when required. He must arrange to visit certain localities on certain days. He must provide himself with a motor bicycle, or motor car, or motor boat, or other means of conveyance. On terms agreed upon with the School Board or Secondary Education Committee, he must give regular attendance at schools for the treatment of diseases and defects disclosed at the medical inspection of school children. He must keep a classified register of patients on the card index system. These various types of activity are considered in the fixing of the doctor's subsidy.

To make these obligations operative, the Board have advertised in all the districts concerned the names of the medical practitioners responsible for the practice in a given area. When the information spreads there will undoubtedly be a certain increase in the demand for medical service. Nothing but experience can prove whether the system now established will meet the peculiar conditions of the

Highlands and Islands; but, up to a point, it secures the advantages of a public service without sacrificing private practice. In the cases where private practice and public practice almost coincide, the system will naturally develop into a whole-time public practice. Given the special conditions, the system is effectively begun. Experience will determine how and where it may be profitably extended. The medical schemes as a whole involve agreements with one hundred and fifty doctors in the Highlands and Islands.

Schemes for specialised medical services are in contemplation; but they are not yet fully developed. As we are concerned here only with mothers and children, it would be away from the purpose to give further detail. Generally, it may be said that the agreements with the medical practitioners bring medical attendance within easier reach of the mothers and children. But it cannot yet be said that the maternity and child welfare schemes in the Highland area are, in any respect, adequate to the needs of that area. For many reasons, even the treatment of school children has been delayed, and the treatment of pre-school children as such has not yet been seriously handled by the Local Authorities. As our special study of the Outer Hebrides shows, even the single problem of tuberculosis is far beyond the present administrative resources.

4. *Nursing Service.*—The nursing is, as a rule, organised in the form of nursing associations. Before making a grant, the Board satisfies itself as to "the constitution, organisation, and management of the association; the need for assistance from the fund, regard being had to the circumstances of the district; the maintenance of a reasonable local contribution towards the expenditure; the accounts of the association; the efficiency of the nursing service, including arrangements for the supervision of the nurse's work by a duly qualified medical practitioner; the terms on which nurses are made available for nursing services to the various classes of the community."

Recently, the Board made a new departure in organisation. In the island of Lewis arrangements have been made by the Board and adapted by the Lewis District Committee (that is, the Local Authority for public health) for the extension and improvement of the nursing service in Lewis, and for the administration of grants from the Highlands and Islands Medical Service Fund in aid of such

services. The essence of the arrangement is that the District Committee acts as a central committee for the general administration of the nursing service in the island of Lewis. Thus all the local nursing committees subsidised by the Board become elements in a general nursing scheme for the whole district. There is one very important article in the arrangements—

"The District Committee shall arrange for the nurses to act, in so far as they are qualified, and when required by the District Committee to do so, in the treatment of diseases and defects in school children as disclosed by the system of school medical inspection, in the domiciliary treatment of tuberculosis, in the domiciliary nursing of infectious diseases, in the nursing of the registered sick poor and old age pensioners, and in giving the assistance for which they may be fitted in maternity and child welfare schemes under the Notification of Births Extension Act, 1915: Provided that where a district nurse is employed in nursing a case of infectious disease treated at home, arrangements shall be made for relieving her of her ordinary duties while she is so engaged, if, in the opinion of the doctor in attendance, such an arrangement is necessary in the interests of the community; and provided that where under any statute, or any order or scheme framed in pursuance thereof, Imperial or local funds are, or may be made, available for general or specialised forms of nursing, the District Committee shall satisfy the Board that the authorities entrusted with the administration of such funds are prepared to make such a contribution to the nursing scheme as the Board may consider reasonable."

These illustrations of administrative methods must suffice. Ultimately, the nursing service in the whole area will attain to a very high level. The policy of the Board is to appoint, wherever possible, fully-trained nurses. When the schemes are developed, midwifery will be well provided for.

5. *Conclusion.*—When the whole system provided for by these schemes gets effectively under weigh, the Highlands and Islands will be at least as well provided for as some of the wealthier rural areas of the South. The new experiment involves a population of some 320,000 persons scattered over about half the area of Scotland. It involves also some one hundred and fifty medical practitioners. There are many difficult special problems in front of the Board; but the present experiment in medical organisation is relatively a great experiment and has in it the germs of a highly adaptable State medical service.

CHAPTER XXXIII

THE POSITION AND DUTIES OF THE HEALTH VISITOR

1. *Origin of Health Visitors.*—The office of Health Visitor is a recent specialisation of health work. It is a typical example of administrative growth. Long before the notification of births was thought of, social workers had seen the need for specialised personal direction in the efforts to secure better sanitary conditions in individual houses. Probably the function of Health Visitor was really discharged incidentally by many social investigators whose principal work was not health visiting. Incidentally, the doctors and nurses of out-patient departments and dispensaries not only gave professional advice at the departments, but established direct personal relations with the families in the houses. More than a generation ago the nurses, students, and doctors in the towns with medical schools superintended in a multitude of ways the families that came within their sphere, and particularly the mothers and children. It would, indeed, be very difficult to disentangle the many small roots from which the office of Health Visitor has sprung. The educational motive as developed in the medical schools had always a certain support in the social motive as developed at voluntary sick children's hospitals and dispensaries. When the public health renascence of the eighties, symbolised by the institution of the Diploma in Public Health, generated a special public health service on the large scale, the superintendence of infectious diseases at home, the increasing removal of cases to hospital, and the general tightening of sanitary supervision, all prepared the way for further specialisations of official health work. For many years the sanitary inspectors, acting under the general direction of the medical officers of health, have acted as personal advisers to multitudes of families in matters affecting the health of the home. Several years ago, women sanitary inspectors began to join the public health service. On some of the staffs trained nurses had already been performing outdoor duties, and of the qualified sanitary inspectors, many had previously been trained as nurses. The hygienic direction of the family has thus

been steadily growing into greater and greater specialisation. The prevention of infection led to the prevention of general sickness. The methods so obviously necessary in diphtheria, scarlet fever, infectious diarrhœa, measles, and the other common infections of childhood were rapidly seen to be applicable to many conditions not specified in any statute. At any time within the last twenty-five years you may find in the reports of the Medical Officers of Health directions for preventing illnesses in children, for the feeding of babies, for the education of mothers in maternal duties. A classical instance was the leaflet prepared by the late Dr J. Burn Russell for Glasgow more than thirty years ago. But every principal town and county had, in one degree or another, developed a system of maternity and infant welfare. The health-visiting function had evolved long before the office of Health Visitor was created. A curious indirect proof of this you may find at any congress or conference on infant mortality, when women sanitary inspectors and health visitors are both in the programme of discussion. In these collisions of offices the flashes of difference show the lines of advancing specialism. The specialisms, however, are all related within the same system of health ideas, and there is no radical antagonism between women sanitary inspectors, superintendents of midwives, midwives, health visitors, sanitary inspectors generally, and medical officers of health. The special note of the moment is that the whole system of health administration is recognised as a unity that correlates a multitude of different functions. The function of Health Visitor is now definite enough to demand for itself an officer with a special title and special training.

Meanwhile, as the official administrations were showing these special growths, the bodies of voluntary health workers were steadily increasing. Societies, committees, associations, federations and leagues of social workers of every variety began to include health visiting among their discussions. The unofficial bodies have done a great deal to organise the general opinion, to stimulate general education in health, and to concentrate the social energies on special questions like the welfare of mothers and children. These activities have had an enormous effect on the official bodies, and have been a powerful force in securing the present advanced legislation. No one can tell what infinities of good impulse and good thinking have gone to the making of the few words of power now written in the law.

2. *Voluntary Health Visitors and Official Health Visitors.*—The work of health visiting gives openings for many capable and educated women that have no special administrative training. Many have taken advantage of these openings. Both in Edinburgh and in Glasgow the systems of voluntary health visiting have risen to a high level. Perhaps the most successful organisation of the kind is the body of Voluntary Health Visitors in connection with the Public Health Department, Edinburgh. This large association of voluntary workers shows in what ways and to what extent a public health department may benefit by voluntary assistance. The association is an independent body; but it takes its real status from its connection with the Public Health Department. It is at once voluntary and official. It combines spontaneity of initiative with stability of administration. It now forms an integral part of the Edinburgh scheme of maternity and child welfare. Hitherto, a single official Health Visitor has acted as chief intermediary between Medical Officer of Health and the Voluntary Health Visitors. Now, under the scheme the official staff has been largely extended; the institutions dealing with mothers and children have been correlated; the Voluntary Health Visitors have been allocated among the official districts; in a word, the whole system of official and voluntary service has been expanded and more closely integrated. The details of the new relationship are to be found in the chapter dealing with the Edinburgh scheme.

But the work of this association has been so striking that it deserves by itself a somewhat detailed record. The organising secretaries, Mrs Alexander Somerville and Mrs Hamilton Maxwell, have missed no opportunity of developing the work of the association and adjusting it to the rapid social demands of the more recent years. But they have not confined their energies to the work merely of health visiting, weighing of babies, schools for mothers, and the like; they have sought, through courses of lectures from expert people, to educate the association in the general subjects found to be of value in promoting the work and the interest of their members in it. The educational activities thus organised make a striking record. The following notes from the reports and materials furnished by Mrs Somerville are enough to indicate the constitution of the association, the range and variety of its work, and its relation to the official bodies.

SCOTTISH MOTHERS AND CHILDREN

Voluntary Health Visitors in connection with the Public Health Department, Edinburgh

Constitution

I. The Association shall be called The Voluntary Health Visitors in connection with The Public Health Department, Edinburgh, and shall consist of those who approve of its Constitution and Rules, and are engaged in its work.

II. Its objective shall be the Welfare of Infants under twelve months and the diminution of the death-rate among these infants, and also the Welfare of Children under school age.

III. For this purpose the Association shall ally itself, primarily, with the Public Health Department, acting directly under the Medical Officer of Health, and shall render a yearly report of its activities and outlays to the Public Health Department.

IV. As, in the case of the young child, there are many issues involved, the Association shall endeavour to co-operate with any bodies, public or private, medical, educational, relieving, or any bodies whatsoever, for the furthering of the health of the community.

V. A General Meeting of Members shall be held once a year to receive a report and to appoint the Executive Committee.

VI. The Executive Committee shall consist of an Organising Secretary, a Secretary or Secretaries, a Treasurer or Treasurer-Secretary, the Superintendents of Departments—Protestant and Roman Catholic,—the Conveners of the Special Committees, the Official Health Visitor, and such other member or members as may be elected at the Annual Meeting. It shall have power to fill up vacancies occurring during the year, and to add to the members elected should occasion arise. Three members of the Executive shall retire annually, but will be eligible for re-election, and two officials shall retire in turn each year, but be eligible for re-election at the Annual Meeting.

VII. The General Committee shall consist of all the members.

VIII. The Special Committees shall each consist of not fewer than four members. The Conveners shall report annually to the Executive Committee, or when desired by the Executive Committee.

IX. Each Special Committee shall have full powers to transact its ordinary business, but no new departure nor any financial obligations shall be undertaken without the sanction of the Executive.

X. The *quorum* of each of the Committees—Executive, General, and Special—shall be not fewer than one-third of its members.

XI. The Executive Committee shall meet as often as the Secretaries consider desirable, or when requested to do so by the General Committee.

XII. The Executive Committee shall have full powers to administer any funds which may be granted or given to the Association.

XIII. *The Executive Committee shall have full powers to alter or add to the Constitution with the consent of the General Committee.*

Hon. Organising Secretaries—Mrs Alexander Somerville, 27 Colinton Road; Mrs Hamilton Maxwell, 13 Albert Terrace.

Official Health Visitor.—Miss Carmichael, City Chambers.

Extracts from Report for 1915

All cases sent out by the Official Health Visitor have been placed immediately under care of Visitors. New Visitors have been found to replace those retiring from work, and the list remains complete (about 300 workers) as in other years.

The Visitors have encouraged the mothers to take all unthriving babies to consultations at Dispensaries or at Health Centres.

1914–1915.

Disposal of Cases.		*Cases Received.*	
Completed one year	1212	Balance from 1914	1404
Dead	220	New cases	1593
Objectors	13	Old cases found	7
Left Edinburgh or visited areas	130		3004
Unnecessary to visit	14		
Boarded or in S.C.H.	8		
Lost sight of	161		
	1758		1758
		Balance of cases still under visitation	1246

31st December, 1915.

POSITION AND DUTIES OF THE HEALTH VISITOR

Clothing Department

Number of garments sold in 1915, 785.
This is 207 more than during 1914.

Cradle Department

One hundred and thirty-one cradles have been sold during 1915. This makes a total since beginning of considerably over 1000. Last year we closed the year with a balance on hand of over £3; this year we have only 10s. The difference is due to the lessened donations, chiefly blankets, and the slightly increased cost of materials.

Home Weighing

Miss M'Nair writes: "In the old and new town I have had 20 babies in the year, and have carried out 97 weighings. This is only one baby less than in 1914."

Education of Visitors

As hitherto at each fortnightly meeting throughout the session, addresses were delivered on subjects connected with child welfare. Subjects:—The Working of Soldiers' and Sailors' Families' Association; Public Health (four Lectures); Visitation of Tubercular Patients; Economy in Food and Food Values; Health Visiting in Ireland; School Board Methods of Inspection; The Household Fly and its Dangers; The Health of the ex-Baby from Ten Months; Common Infectious Diseases.

Education of Mothers

From September 1914 to July 1915 the enrolments in Classes under the School Board of Edinburgh were 499, and from September 1915 to December 1915, 503. Additional attendants at cookery demonstrations, 95.

Two representatives of the Voluntary Health Visitors have visited all the classes named on the second list, and they have talked with the members and have encouraged them to take courses of instruction. For the purpose of strengthening and of extending this educational work a Committee, drawn from the members of these classes, was formed, and met in the autumn. Out of a possible 22, 18 representatives were present.

The Voluntary Health Visitors have not the credit for the formation of nearly all these classes, but it is owing to their initiative that this remarkable movement was introduced.

They are pleased to be able to report another successful course of instruction organised by them. By their representations, Dr Aimée Gibbs was appointed Lecturer on Motherhood and Infant Life; two groups of over thirty women attended classes in Stockbridge and in Regent Road, and a third group is ready to begin in South Bridge School after the New Year.

Home Conditions

In the last report presented to the Public Health Department the secretaries spoke of the impression left on the minds during a tour of visitation in from 300 to 400 homes in St Giles' Ward. They had found clean babies in all, and open windows and separate cots in the majority of the homes; they were, however, impressed by at least four prominent adverse factors—dirty beds, indifferent preparation of food, listlessness of children above baby age, and general want of home-management.

A distinct effort has been made to grapple with each of these factors.

All dirty beds reported by Visitors have been dealt with by the School Board Sanitary Inspector until a few months ago, and since then they have been dealt with directly by the Sanitary Department, a special inspector having these under his charge. About fifty beds have been thus improved in condition.

Food Values and Cooking in the Homes

By the co-operation of the Insurance Committee it became possible to ask the School Board to lend, for six months, one of its most experienced teachers to speak to the mothers on Food Values, taking the mothers first in groups and then offering to go into the homes and teach "on the hearth."

In all no fewer than 1500 women will have listened to these series of three Lecture-Demonstrations on Food Values.

Miss Gilmour's own Report is subjoined, with a detailed account of one week of work in the homes. [This experiment is new and deserves a full record.—W. L. M.]

"*Demonstrations.*—Since beginning work on 25th October 1915, I have given demon-

strations on simple cookery and lessons on diet to thirty-seven meetings of various kinds —mothers' meetings, soldiers' and sailors' wives' clubs, senior girls' clubs, etc.

"As a general rule, the greatest interest has been taken in the lessons, and the remarks and criticisms on my very simple dishes have been most instructive.

"The women had all made soups, stews, and puddings; but the question of food values was a new one, and opened up quite a novel point of view.

"A proof of the interest that has been awakened is, that there is a prospect of three practical cookery classes being formed in the Canongate district under the Edinburgh School Board.

"*Home Visiting.*—In this respect I think I may say that I have been very fortunate, as, with the exception of one or two Fridays (an inconvenient day for the women), I have not had a vacant morning. I have visited about thirty-four homes, giving the preference to those women whose children were delicate.

"At first we found the women extremely shy and difficult, and many were the polite excuses for NOT having me. One woman was sure 'that there were not enough pans in all her land as I would need'; but she volunteered for a visit when she saw how few and simple were the utensils I used at my demonstrations.

"Another, who was equally sure that I would 'dirty my white uniform at her smoky fire,' welcomed me when I assured her that I would come in a large overall.

"The first visit was the only difficulty; that over, the women, with one exception, were eager for me to fix another day. In the case of the exception the invitation went no further than 'You can come if you like'; and as I was sorely needed, I took full advantage of the grudging permission till the family removed to Glasgow.

"Many of the women, notably those who have been in good domestic service or who have taken advantage of the domestic classes of the Continuation Schools, were able to profit sufficiently by the demonstrations, and I have heard indirectly that they have practised the dishes at home. It is from this class that the pupils for the practical classes are drawn.

"Others, however, are remarkably ignorant of the diet suitable for a family, and are also extremely prejudiced against many comparatively economical and nourishng foods. This ignorance causes them to imagine that cookery is much more difficult and troublesome than it really is, and, in consequence, they buy insufficient quantities of over-seasoned cooked food at a cost that would cover two dinners made at home.

"It is these women who have profited most by the home lessons. It is almost impossible to persuade them to join a class, but my experience is that they *wish* to do their best for their families, and whenever I have had time to go back, I am invariably told how much the 'bairns' enjoyed the dinner, a far greater incentive to effort than my demonstrations.

"But it is just there that the difficulty comes in. To establish such friendly relations with the pupil as will enable the teacher to help with the 'budget,' the cookery, and, above all, the cleanliness, takes two or three visits; though I may say that any hints I have given on the latter subject have been received in the friendliest spirit.

"To speak of results after so short an experience would be impossible, but I have seen enough to convince me that *systematic* teaching of cookery in the very poor homes would be of real economic value to the city.

"The children would be better nourished, and therefore better prepared for school life and less liable to these frequent absences which increase the school rates. There would be fewer, too, of medically unfit men and women.

"I am very sure of this, that it is ignorance and adverse circumstances and NOT laziness that make so many women frightened for cookery, and it must be borne in mind that a broken-down grate, a smoky chimney, and *no* hot water, are severe handicaps to habits of thrift and cleanliness.

"I cannot close this report without expressing my gratitude to Mrs Somerville for her kind encouragement and practical help. IF these demonstrations and home lessons have been successful, it is in no small degree due to her co-operation.

"*Illustrations*

"(1) House comfortable—grate with oven which does not heat at all. Family fairly well 'up,' and woman can make soup and stews quite well. Went over budget and recommended a few economies, but found the small wage well spent. Girls and boys out working complain of monotony in the diet, so was able to suggest additions. Cooked large apple dumpling.

"(2) Baby of eighteen months not very strong. Woman anxious to do her best for the child. Showed how to make simple milk puddings. Hints on care of milk.

"(3) Husband serving; four children—one baby of 4 months. Room very tidy; woman anxious but very ignorant of cooking; worked in factory from school, and married at nineteen. Made stew with dough-balls; also small dumpling. Showed porridge, which she promised to give daily.

"(4) Nice kitchen, but front rooms (which the woman offered to show me) rather sunless. Mince thickened with meal; boiled cabbage. Lentil soup for next day.

"(5) Husband killed at Gretna; only one little girl of nine, adopted in babyhood (sister's child). Particularly nice house and tidy woman—good cook, but anxious to know some light dishes for little girl, who is not strong.

"(6) No children; only self and husband, who is delicate. Went over budget—recommended some light milk diet; showed lentil stew.

"(7) Five in family—all healthy. Showed addition of meal balls to mince which she had in for dinner; apple dumpling. I asked if she had any old bread, but was told that the children eat crust and all and were not allowed to leave bits. Budget very careful and house clean.

"(8) Young woman with baby of four months, and ailing child who made a bad recovery from measles. Showed her how to make two dishes for a child from one egg—scrambled one half and made custard with other. This young woman belongs to the Tron and is anxious that lessons should be given there. She thinks that a good many would be glad.

"(9) Young woman with three or four young children—all healthy. Made small stew with vegetables and meal balls, and prepared lentil soup for next day.

"(10) Woman with ten children—all healthy. Went over budget—able to suggest a good many savings. Woman rather ignorant of cookery and would need more lessons. Made meat and vegetable pudding. Prepared lentils for next day, to be used with potato and dough balls.

"(11) One woman with delicate husband (consumptive) and four children—baby of four months not very well, and boy of five or so just recovering from pneumonia; other two strong. Woman very anxious to learn light dishes, as husband cannot eat meat or soups. Made fish pudding with bread; custard pudding for delicate child; light sauce for fish with the bones, skin, etc., of fish; and small dumpling for the well children.

"(12) Large family—two youngest very delicate. Made large dumpling with scraps of bread; small custard for the child with rickets; and prepared soup and fruit-and-bread pudding for next day."

For account of work in "Babies' Open-air Playroom," see chapter on "The Toddlers' Playground."

This association, and the similar associations elsewhere, are essentially town developments. In discussions with county medical officers of health and other county officials, I have almost uniformly found a distinct antagonism to the employment of voluntary Health Visitors. The conditions of the counties, it is maintained, differ radically from the conditions of the towns. There is little general belief in the value of unpaid voluntary work. How far this disbelief is justified by experience, I cannot tell; but it is very widespread. Undoubtedly, the work of the counties differs in unnumbered particulars from the work of the cities. As with medical inspection of school children, so with the health superintendence of pre-school children, the county medical officers of longest experience invariably decide against the voluntary Health Visitor and in favour of the paid official. In the counties there is much voluntary work done; but it is not of the same kind as in the cities. The voluntary Health Visitor in the counties will probably always remain a minority.

3. *The Duties of Health Visitors.*—As yet, the duties of Health Visitors have not been closely defined. This is easily explained. The Health Visitor has relations to many other officials. She is not a nurse; but she may have a nurse's training, and has to work with nurses. She is not a midwife; but she may have the midwife's certificate, and has to work with midwives. She is not a sanitary inspector; but she may have a sanitary inspector's training, and has to work with sanitary inspectors. She is a member of the hygienic staff of the Medical Officer of Health, and acts under his immediate direction. From his department she receives the notifications of births from day to day. She enters the details in the appropriate records. She visits the home, records the facts on the special card, indicates the necessary action, and then places the card in its correct sequence for subsequent visiting. She has to attend at the maternity centres, at the child clinics, at the dispensaries, or at the other places where mothers and children are advised or treated. She has to visit the homes to see that the advice and treatment are carried out. She has to direct the mothers where to apply or to what institution to take their children. She has to advise the centre of the cases directed to them. She has to keep the medical officer informed of any incidental disease she discovers or any insanitary condition needing attention.

The activities thus set down are simple enough, but they involve a wide range of technical knowledge. They may include anything from the classification of the causes of death and the compiling of statistics from original sources to the sanitary supervision of houses, or the direction of expectant and nursing mothers. A Health Visitor, to be efficient, must have some knowledge of the administrative acts, of physiology, of statistics, of general hygiene, of general nursing, of fever nursing, of maternity nursing, of the methods of dealing with pre-school children at crèches, day nurseries, children's gardens or playgrounds, children's clinics, dispensaries or out-patient departments. She should also have a general knowledge—acquired, if possible, practically—of the management of maternity homes, maternity hospitals, convalescent homes, holiday homes, and other such institutions. She must know how to keep records, how to fill in relevant facts, how to make reports. The details of these various functions are to be found all through these chapters. The general requirements of a fully equipped Health Visitor I summarise

here simply to show, *first*, that the office of Health Visitor has now developed an elaborate technique of its own, and *second*, that the time has come for training Health Visitors along the lines of a specialised curriculum.

There is a further important point: the Health Visitor can no longer be restricted to the health superintendence of infants under one. She must now be trained to an equal superintendence of all children under the age of five. How necessary such training is may be inferred from our discussion of the general case for the pre-school child. Children under one call for one type of visitor; children over one for another type, and, possibly, in the course of time, the work of Health Visitors will be specialised in response to the needs of children under one, children from one to three, and children from three to five. This, however, is more a matter of administration than of training. If the training is to be adequate, it must be well grounded in a general education, and varied in its technique to meet the variety of the prospective duties.

4. *Conclusion.*—This brings us to the training of Health Visitors.

CHAPTER XXXIV

THE TRAINING OF HEALTH VISITORS

1. *Practical Difficulties.*—At present, Health Visitors of many varieties of training find their way into the health service. This is not because the required training is not fully understood, but because the hospitals and other institutions have hitherto made such training impossible. In a discussion of this question I wrote as follows :—

> " But the whole office of Health Visitor is so recent that opinions on the best training are still very fluid. A short time ago I had occasion to obtain the views of a large number of the leading county and city medical officers of health of England, as well as the views of officers engaged in the work of the central departments. I was not surprised to find that there was an acute division of view between the advocates of the hospital trained nurse as a Health Visitor and the advocates of specialised training in the theoretical and practical technique of health visiting. There is much to be said on both sides. Against the trained nurse at present produced by the systems of training favoured in the large surgical and medical hospitals there is this to say, that her training is apt to be too prolonged in a special line of work ; that the training in the higher surgical and medical work, however excellent for the purposes of surgical and medical hospitals, is not specialised along the lines essential to the health supervision of young children ; that, even where the training is more varied than is possible in the large hospitals, a nurse has to acquire a great deal of knowledge in the actual field work among children.
>
> " On the other side, it is contended that the best training is training in the actual work to be followed as a profession ; that the work of a Health Visitor is compounded of training in nursing, in social affairs, and in administrative technique ; that training of this composite order is possible only through specialised courses, and, though training as a nurse may, on occasion, be a good groundwork, it is not always so, and, on the scale of the four years' course common in the hospitals, is not all of it essential. The Central Midwives Board certificate is, in some places, regarded as indispensable.
>
> " These views I submit for free discussion. Health Visitors of all varieties of training are now at work in England, and it should be here possible to have a valuable interchange of views. One point I should specially draw attention to. Every Health Visitor should have, besides a sufficient course in anatomy, physiology, hygiene, and law, a sufficient experience at a school clinic, a child welfare centre, or other equivalent. She should also have some experience in the knowledge of infectious diseases and their hospital management, and some training in a sick children's hospital. But the moment you try to think out a proportioned curriculum of this kind, you have to face the difficulty that the public hospitals will not admit any person for training except for the full hospital curriculum. Possibly, there may be hospitals ready to offer training for periods of three months or six months ; but, normally, no hospital of any kind will do so. In the memorandum on schemes of maternity service and infant welfare issued by the Local Government Board for Scotland, it is laid down that ' the local authority should secure that the institutions included in its scheme shall, wherever the conditions are suitable, afford the widest facilities for professional teaching and technical training.' This recommendation was made in view of the fact that the new technical work required of health visitors, nurses, educational students, and medical practitioners would ultimately necessitate a revisal and extension of various sections of the curricula of training."

The difficulties here indicated will ultimately disappear. To the problem of training, Professor Matthew Hay has devoted much

attention from two standpoints—the standpoint of an administrator, and the standpoint of an educationist. He has drawn up a curriculum suited to the office of Health Visitor. From his long experience as a university professor he knows within what limits the curriculum he sketches can be made real. From his equally long experience as a medical officer of health he knows how urgent the need for the higher training has become. At every point in the curriculum sketched he takes account of the two factors—the administrative and the educational.

SUGGESTED CURRICULUM FOR THE TRAINING OF HEALTH VISITORS. By Professor MATTHEW HAY, M.D., LL.D., *Medical Officer of Health for Aberdeen.*

(1) *Women Health Visitors.*

Properly trained Health Visitors form the most essential and effective part of the machinery for dealing with mother and child welfare, above all, in any scheme in which the services of the medical staff are confined, or are mainly confined, to institutional consultations or treatment.

The reasons for this opinion are :—

(1) That the mothers most in need of help and advice for themselves and their children are unwilling to come to consultation centres, sometimes because of their poverty or their habits preventing them being as decently dressed as they would like, sometimes because of difficulty in getting away from a family of little children who want constant tending, sometimes because of debauched habits, and, most frequently of all, because of sheer apathy or indifference. Mothers of illegitimate children, or keepers of such children, are also disinclined to come to consultation centres. For all these the advice and help which centres could give must be carried to them in their homes.

(2) For the effective advising and assistance of nearly all mothers it is very desirable that the home conditions should be known at first hand, and that in many cases these conditions should be kept under observation.

(3) In a not inconsiderable proportion of cases frequently repeated visiting is necessary for the proper care of an infant—sometimes daily for a period, or once every two or three days. Frequent calls by a mother with her child at a consultation centre are neither possible, nor perhaps, in every case, desirable in the interests of the home.

(4) A well-trained Health Visitor, confined to the particular range of duties ordinarily assigned to her, is capable, within that range, of being as useful and helpful as a qualified medical practitioner.

To maintain efficiency in the Health Visitors, and to keep them in constant touch with skilled institutional practice, and with the most recent knowledge relating to their duties, and thus to save them from a stereotyped routine, it is very desirable, where possible, that the Visitors should work from a central institution in which opportunity is given for watching, (*a*) the feeding and care of healthy children under normal physiological conditions, as in a day nursery, (*b*) the treatment of weak or ill-nourished children as in a ward for such children, (*c*) the care and treatment of antenatal disturbances in women. in addition to (*d*) the usual medical consultations and clinics associated with a mother and child welfare centre. If the central institution can be worked in immediate conjunction with a maternity hospital, so much the better.

(2) *Training of Health Visitors.*

In order that their services may yield the best and fullest results, Health Visitors must be women of tact and good sense and of above-average intelligence and general education, and should have been suitably and sufficiently trained for their duties. Unless the Visitor is subsequently to be adequately remunerated, these requirements cannot be insisted upon ; nor can we hope to attract to this important sphere of public service a reasonable share of the clever and capable young women looking forward to a career of public usefulness.

In many parts of Scotland a large proportion of the cleverest and best-educated girls

is every year being quite properly drawn into the teaching profession by the inducements and assistance offered by the Education Department. The salaries in this profession are certainly not large, and are, indeed, too low; but the course of training is made more easy and attractive by the substantial pecuniary help offered by the Education Department, to those who require it. Some similar assistance and inducement, whether from Government or other sources, should be available for girls desirous of becoming Health Visitors.

It is fortunate for any likely scheme of training that the requirements are almost precisely those that are wanted in a good housewife, so that whether a career in the public service is reached or not, a training shall have been obtained that will equip a woman, in an exceptional degree, for house and family management, and for a place in the public administration of health schemes.

The following requirements might, I think, be aimed at for the highest rank of Health Visitors, even if it should be found impracticable to insist on every Health Visitor complying with them.

General Education.—It ought to be possible to expect as much in this direction as in the case of young women entering the training centres for teachers. The possession of the intermediate certificate, or its equivalent, should at least be looked for, with, say, a higher pass in one subject.

Professional Training.—If the preliminary general education is to be of the standard indicated, the candidate will rarely be under seventeen or eighteen years of age, but she will still be too young to be admitted to any hospital for a period of training as a nurse, which should be regarded as an essential part of the qualifications of a Health Visitor. Scarcely any hospital will take probationers at a lower age than twenty or twenty-one years.

For this, as well as for other reasons, it would be convenient and desirable that the candidate should spend, to begin with, say, one and a half years in attending prescribed courses of instruction, systematic and practical, in a recognised college or school in such subjects as are usually taught in Schools of Domestic Science—for example, Elementary Anatomy and Physiology; Food, Feeding and Cookery; Personal and Domestic Hygiene; and Social Economics. An elementary course in the Nature and Causation of Disease would also be very useful.

As these two years might be felt to be somewhat expensive for girls from humbler ranks, especially if residing away from their homes, it would be of great importance that arrangements could be somehow made to supply the required courses of instruction, in at least the case of certain selected candidates, without charge, and also to provide a modest maintenance allowance in much the same manner as for prospective school teachers, subject to such candidates undertaking to complete the whole course of training required for Health Visitors. During a part of this period the candidate might also receive practical instruction in the care and feeding of normal children, as in a well-conducted day nursery.

This period of study should close with an examination in the subjects studied, for which a certificate should be granted. The certificate would have a value of its own, even if the rest of the curriculum was not undertaken. It should in any case exempt the student from the first half of the examination held by the Local Government Board for nurses.

The next stage should consist of two years' training in an approved hospital—a general hospital, a hospital for infectious diseases, or a hospital for sick children—with such courses of instruction in nursing and relative subjects as are usually given in well-appointed hospitals.

Although a two years' hospital training would be insufficient, under existing regulations, to enable the candidate to qualify for the nursing certificate of the Local Government Board, yet, with the advantages of her previous attendance in the courses of instruction prescribed for the first year and a half of her training, the candidate would probably become nearly, if not altogether, as competent a nurse as women who had received a three years' hospital training without such previous instruction. She would probably experience no difficulty in passing the remaining half of the examinations of the Board for its nurse's certificate, whether the Board felt justified or not in actually granting a qualifying certificate for nursing.

If, however, the candidate should desire to possess indisputably the full diploma of the Local Government Board, or of the hospital, as a certificated nurse, it would be open to her to remain at the hospital for the usual period required by the rules of the hospital—three years for an infectious diseases hospital or a children's hospital, and four years for a general hospital. With this certificate she would have the right to seek employment as a qualified nurse at any time if she so desired.

No grant or maintenance allowance, or only a very small one, need be given during the period of hospital training, as the candidate might reasonably hope to be

admitted on the footing of a nurse-probationer, with maintenance and uniform, and the usual salary.

The final six months of the suggested four years' professional training of the candidate should be employed in attending the practice of a maternity hospital, including a prenatal ward, and along with this, or separate from it, the practice of an approved mother and child welfare centre. The attendance in the maternity wards need not extend beyond three months, if a certificate qualifying for midwifery practice is not wanted. Even, if this certificate were desired—and it would be essential to Visitors expected to supervise the work of midwives—the Midwives Board might not be unwilling to reduce their prescribed period of training from six months to four months, as is done for trained nurses. The previous training of the candidate would much more than compensate for the loss of two months in maternity training.

If the welfare centre, with a ward for marasmic babies, were attached to the maternity hospital, candidates ought to have no difficulty in combining attendance on both.

The curriculum suggested may possibly appear to be too crowded towards its close. It is not desirable that it should exceed four years. If it approached five years it would be as long as the course of study for a medical degree, the entrance to which is not yet guarded by a very high examination in general education. The subjects in the first year and a half of the curriculum might be curtailed and brought within one year, and thus more time allowed for the final stage. But it is of the highest importance that the training of the Visitor should be built upon a sound foundation. Such training, especially in actual welfare work, as is obtainable in the final stage, will every day be added to when actual service begins, and will anyhow have to follow the lines approved by the medical chief of the welfare scheme under which the service is being given.

The final Health Visitor's certificate, granted after some such curriculum as has been indicated, would not necessarily qualify the holder for at once entering upon full service in any or every kind of health-visiting work. But it would certainly qualify her for commencing a short probationary period of such service in practically any sphere of possible duty. Perhaps only in connection with the newly created group of supervisors of the welfare of industrial workers would it be desirable to provide some additional instruction, as, for example, in a course specially dealing with occupational hygiene and diseases, and with the laws relating to industrial life.

The scheme is, after all, only a suggestion, but it offers, at least, a basis for discussion.

. . . . . .

Although the suggested curriculum of study and training is not longer than is required for nurses trained in general hospitals, the admission to it would depend on the possession of a higher level of general education than is usually demanded of nurses, and the intellectual side of the training would be more arduous. The curriculum, as already remarked, would also be more costly. It is, therefore, necessary that if a sufficient inducement is to be offered to young women of the right kind to undertake such a training, the Local Authorities should see that Health Visitors are adequately remunerated. The Local Government Boards would, no doubt, be willing after a time to make the possession of an approved Health Visitor's certificate obligatory in all appointments, or at least in all the higher appointments, in connection with health visiting.

2. *General Conclusion.*—The general curriculum here sketched or an equivalent cannot but commend itself to those concerned in the success of the maternity and child welfare movement. But the office of Health Visitor, if it is to attract students fitted to undertake this curriculum, must, in status and salary, be made worthy of the curriculum undertaken. This implies that, in the work of providing for mothers and children, the community is in earnest. At the moment, the emotions awakened by the war have risen in a great social wave that will soon reach its height, and then recede. But the problems will remain the same. It is then that the technical training of the Health Visitor will tell. Twenty-seven years ago, the public health movement came to life in the counties; to-day, every county has an

organised health department. Among the most urgent new developments is the care of the mothers and children. To meet this new development the office of Health Visitor has been created. As, twenty-seven years ago, the general health movement created a career for the Medical Officer of Health, so, to-day, the special care necessary for the protection of mothers and children must create a career for the Health Visitor.

CHAPTER XXXV

SPECIAL REGIONAL STUDIES

1. *Value of Regional Study.*—In the great cities the facts are so many and so clotted together that they need nothing less than specialised analyses of statistical quantities on a large scale. Of such analyses this Report contains a large number. This was inevitable. The cities really concentrate within themselves many varieties of community. They draw their members from every region of town and county. The special studies are, therefore, of the highest representative value ; but they show us little of the individual life. In a Report like this, which is intended to show as many facets of the national life as possible, I felt that some contrast studies were called for. The particular form of these contrast studies arose from a chance remark by Mr Hetherington, secretary to the Carnegie United Kingdom Trust. In a discussion of various views, he told me of one distinguished administrator, who would "like to go to a locality and stay in it until he found out why the children died, and how they could be kept from dying." I have not been able to fulfil this ideal ; but in the special studies arranged I have tried to secure concrete presentation of the intimate life of typical regions.

This has not been without difficulty. For nothing impresses men less than the intellectual value of the crude and prosaic details of their day's work. It looks such a little thing to do just this or that service for a mother or a child ; but the little done may be of cardinal value in the hindering or helping of life. So common in the day's routine become all these little services of medical practice that the medical practitioner forgets their value to the social student, and never thinks of recording them. It is to recapture from the daily life of busy men some of these intellectual and ethical activities that I present the special reports prepared for the selected areas. It is not static figures that I have sought, neither is it figureless generalities ; it is rather something to suggest the movements of real life—a realistic cinematograph. Figures take the expert ; the layman is taken by the living picture.

SCOTTISH MOTHERS AND CHILDREN

From three rapid tours of the Highlands and Islands, made for different official purposes, I realised how difficult it is to come to close quarters with the health problems of civilisations so different from the civilisations of the midland valley. In speaking of difference of civilisations, I do not exaggerate. But the kind of material wanted was difficult to specify. I felt, however, that here, as in the days of the old "statistical accounts," there was a chance to obtain social documents from persons exceptionally qualified to prepare them. These studies deserve the fullness of record here given them, and will become valuable historical proofs of the problems that confronted the medical services of Scotland in the first quarter of the twentieth century. For obvious reasons, it is not possible to print all the details furnished. Our purpose was not to touch the individual life, but to find whether the life of the community could be improved. All personal matters, therefore, have been blotted from the records, but the concreteness of the facts is not thereby impaired. The professional men concerned are skilled observers. They write from years of experience in their localities. From the stress of their daily practice they have saved the time to put in a permanent form something of current history.

In the special studies of the Hebrides prepared by Dr Mary Menzies, with the assistance of Miss Bertram Ireland, the method is different, but the purpose is the same. The child-life is only a small section of the health problem in the Hebrides; but it was all that could, at the time, be overtaken. The very condensed reports by Dr Menzies and Miss Ireland are based on personal visits to some two hundred Hebridean families, distributed over five islands—total population at 1911 about 44,000. They are the most intimate accounts known to me of the special conditions affecting child-life and motherhood in the Outer Hebrides. How difficult it is to obtain precise information of those conditions, no one can know that has not made the effort.

The special study of the Caithness tinkers, by Mr George A. Mackay, Superintendent of Poor for the Highland district, is a vivid study of a class, not of a region. The facts are presented with peculiar vividness. I am much indebted to Mr Mackay for his good offices in arranging for some of the other studies. From his familiarity with the localities, he knew which to select as most illustrative.

2. *Methods of Investigation.*—As a general guide to the regional investigators, I prepared a short Memorandum of points to be looked for. Where numbers are small, the statistical quantities are of little or of no value by themselves. That is why I put so much stress on the description of individual cases. After all, it is the individual case that has to be handled, not an average expressible in figures. Both the individual case and the average case are realities; but they are not on the same plane of reality administratively. The whole purpose of this Report is to secure better conditions of life for the individual. From this standpoint these special studies have an exceptional value, because they show just where the difficulties of individual treatment arise.

The Memorandum, printed below, contains some points that may be of service to others engaged in regional inquiries of a social type. Only such details were asked for as the particular investigators could supply without too much sacrifice of labour and time. The response has been of the most gratifying kind. Time and labour have been no object.

CARNEGIE UNITED KINGDOM TRUST INQUIRY

Memorandum on Special Inquiries

1. The Carnegie United Kingdom Trust has decided to obtain special Reports for England, Scotland, and Ireland on the provision made for the physical welfare of mothers and children up to the age of five.

2. The Report for Scotland is intended to be a national document, reflecting every phase (official and voluntary) of the provisions made for expectant mothers, nursing mothers, and children up to the age of five. The official Circular and Memorandum (copies enclosed) issued by the Local Government Board explain in sufficient detail the general groundwork of all schemes for the promotion of maternity service and infant welfare.

3. In its Annual Reports the Board has published for the last two years a detailed analysis of the causes of death in children under one year (Infant Mortality). But the Carnegie United Kingdom Trust inquiry embraces all children of the pre-school ages—one to two, two to three, three to four, and four to five.

4. Accordingly, we are already in possession of the general statistics, both for infant mortality and, through the Registrar General's Reports, for children up to the school age. It is necessary to have these statistical studies supplemented by special studies of individual localities. Thus in the remote rural areas and in the islands the conditions of maternity service and of child-life are very different from those prevalent in the industrial centres. As was shown in the Report by the Highlands and Islands Committee, the medical service, the nursing service, and, in particular, the midwifery service of the Highlands still leaves much to be desired; but, no doubt, the administration of the Highlands and Islands Board will result in some improvement.

5. But for the purpose of the Carnegie inquiry it is important to have an intensive study of some typical districts. For instance, it would be important to know how expectant mothers, nursing mothers, and young children are provided for in the fishing villages of the East Coast and in the islands of the North and West.

6. Each village or island has its own specific conditions, and these, if accurately described in some detail, would be of immense value as material for the Carnegie Report.

7. Thus, in the case of a fishing village, the details that would be of guiding value are such as the following:—

(*a*) The approximate population of the village.
(*b*) The number of births per annum.

(*c*) The number of deaths of children under one, from one to two, two to three, three to four, and from four to five.
(*d*) The occupations of the mothers and fathers of the individual children.
(*e*) The medical or midwifery or nursing service available.
(*f*) The number of confinement cases attended by doctor, or nurse, or midwife.
(*g*) The number of deaths of mothers, or prolonged disablement, or puerperal fever, etc.
(*h*) The sanitary condition of the individual households, including the number of rooms, the number of persons, the amount of overcrowding, the healthiness or unhealthiness of the site, and similar hygienic details.
(*i*) Any special difficulties encountered by the doctor, or nurse, or midwife in dealing with confinements, or with the young infants, or with the children up to the age of five.
(*j*) Special diseases affecting the children in the locality at each age up to five.
(*k*) Milk- and general food-supply of the locality.
(*l*) Where possible, the economic condition of the family should be ascertained, wages and other sources of income.
(*m*) If the actual history of a few mothers and children should be sketched broadly from the birth of the child to the school age, such sketches would be of good illustrative value.
(*n*) The occurrence of venereal disease in the course of the investigator's medical practice should, where possible, be stated, but no use will be made of the information as regards any particular locality without the express approval of the doctor.
(*o*) The prevalence of tuberculosis in any form should be carefully recorded, and an opinion stated as to possible causation—milk, housing, food, personal infection, etc. ; similarly with the sequelæ of measles, whooping-cough, etc.

8. In most places the detailed study should include all the causes of difficulties encountered, say, in a single year, or in two or three years. This is not important so long as actual illustrations of difficulty are given. Each village has its own type of difficulty, and these none but a person familiar with the locality can describe. It is not intended that these studies should be specially statistical. On the contrary, it is more important to have a careful description of the actual conditions or difficulties in a few typical instances. Thus, a doctor in general practice has opportunities of coming into much closer contact with the facts than any other person. He should be able to illustrate the special problems of his locality by a detailed description of typical instances. In any description he makes he should be careful not to give any details that would lead to the identification of the persons or families. Where, however, he has important facts of too intimate a kind to be put into a Report, as occurring in a given locality, he should record them and mark the record "confidential." Such records will be treated as strictly confidential, and any use made of them will be carefully guarded so as to prevent any possibility of misunderstanding.

9. Details similar to those for a fishing village may be obtainable for other circumscribed communities, such as crofting townships or similar groups. The intention of the inquiry is to discover what precise kind of difficulty is to be met, and how far it can be met by the ordinary administrative bodies such as the Public Health Authority, the Poor Law Authority, and the Education Authority, or how far some special new organisation or development is demanded.

10. For this purpose it is important to have as many records of individual experience as possible.

11. Any investigator will find the table of returns published in the Annual Reports of the Local Government Board a valuable guide to the kind of information wanted. If necessary he will be provided with a copy.

12. These general directions may not, in all cases, be sufficient ; but any investigator interested in special lines of study should record his suggestions or experiences. At the present stage it is impossible to foresee how much material it will be possible to incorporate or use in the Report ; but the work of each person will be formally recognised. No details will be made public except such as the particular investigator authorises.

13. Information on the following supplementary points will be very useful :—

(*a*) Maternity benefit under the Insurance Act. How is the money generally expended ?
(*b*) Working women. What is general practice as to stopping work for a period before and after birth of child ?

(*c*) Where mothers go to the fishing. What are the arrangements for looking after their children in absence ?
(*d*) Suitability of houses for confinements.
(*e*) The general practice as to breast-feeding or bottle-feeding. Any statistics showing mortality in the two classes.

3. *List of Special Studies.*—The following is a list of the special studies prepared :—

I. A Mainland District in the Highlands. By A. C. Miller, Esq., M.D., F.R.S.E., Medical Officer of Health, Fort-William.

II. The Outer Hebrides. By Miss Mary Menzies, M.B., Ch.B., D.P.H., Lady Medical Inspector under Local Government Board for Scotland, and Miss Bertram Ireland.

III. East Coast Fishing Villages :

(1) A Fishing Village in Sutherlandshire. By A. Bremner, Esq., M.B., Ch.B., D.P.H., Medical Officer of Health for the County of Sutherland.

(2) Fishing Villages in Ross-shire. By Eneas K. Mackenzie, Esq., M.D.

(3) A Fishing Town in Elginshire. By R. Douglas, Esq., M.A., M.D., D.P.H., Medical Officer of Health for the County of Elgin.

(4) & (5) A Fishing Town and Villages in Berwickshire. By E. P. Calder, Esq., M.B., Ch.B., D.P.H., Interim Medical Officer of Health for the County of Berwick.

IV. A Shetland Island. By T. E. Saxby, Esq., L.R.C.P. & S., F.R.F.P.S.

V. Another Shetland Island. By H. P. Taylor, Esq., M.B., C.M., Medical Officer of Health, North Kyles District, Shetland.

VI. Experiences in a Skye Practice. By A. Grant Macdonald, Esq., M.B., C.M.

VII. Experiences in a Mainland Practice. By D. Wallace, Esq., M.B., C.M.

VIII. An Inland Village in Berwickshire. By E. P. Calder, Esq., M.B., Ch.B., D.P.H., Interim Medical Officer of Health for the County of Berwick.

IX. An Industrial Village in Dumbarton. By T. Lauder Thomson, Esq., M.D., D.P.H., Medical Officer of Health for the County of Dumbarton.

X. Conditions in a County. By Mrs Ethel Cassie, M.B., Ch.B., D.P.H., Interim Medical Officer of Health for the County of Clackmannan.

XI. The Caithness Tinkers. By George A. Mackay, Esq., Superintendent of Poor for the Highland District, under the Local Government Board for Scotland.

XII. A Large Highland County. By Roger M'Neill, Esq., M.D., D.P.H., Medical Officer of Health for the County of Argyll.

XIII. Some Mining Districts. By Miss Bertram Ireland.

4. *General Notes.*—All the contributors are agreed that, in the Highlands and Islands generally, as well as in the fishing villages, venereal diseases are conspicuous by their rarity. Cases, it is said, are occasionally found after the return from the fishing; but I gather that the amount of venereal diseases among all the localities typified by those here studied is, in comparison with the cities, very small. The statement cannot, it is true, be taken as proved, because reliable evidence on this point is profoundly difficult to obtain. That is demonstrated in the Report of the recent Commission. But the medical men here reporting have had such opportunities as no others have to know whether those diseases are widespread in their communities. The general verdict is that they are not.

This is a very important fact biologically as well as medically. It practically eliminates from consideration one or two known causes of congenital disease and disablement. This means that the mothers and children may suffer; but they are practically free from the terrible suffering due to those virulent diseases. Such manifest degenerations among individuals as may be discovered in circumscribed communities may thus with greater safety be assigned to other causes.

In the evidence laid before the Dewar Committee, there were many illustrations of the dangers that waited on the parturient mothers of the Highlands and Islands. Many of the incidents were too ghastly for any but the private medical records. Fortunately, such incidents were not numerous, but they are always apt to be encountered. The general verdict of the observers is that abnormalities are relatively rare, that both nursing and medical attendance are steadily improving, and the dangers to life are tending to diminish. But in those scattered lands every doctor can tell of experiences

unknown to the more normal country practices and unheard of in the cities.

There is general agreement that children tend to be overfed. This occurs even in breast-feeding. In some places, as one doctor phrases it, the mothers have "the practice of—to use a colloquial term—'clapping the bairn to the breast when it cries,' with the result that it clings to the mother's breast like a leech until it drops off. About every hour is quite common." But breast-feeding is apt to be prematurely supplemented by other methods. The same results then follow as in the towns, where a very large proportion of illness is the direct result of incorrect feeding or over-feeding.

The general inference is that, in the more remote and thinly populated areas, as in the thickly crowded areas, the problems of mothers and children are essentially the same in kind; the difference in degree is counterbalanced by the difficulties of attendance, the distance from doctors, the defective housing, and the absence of convenient institutions. Upon all these points, our Special Studies are illuminative.

CHAPTER XXXVI

SPECIAL STUDIES: I.—A MAINLAND DISTRICT IN THE HIGHLANDS

THIS elaborate study by Dr Miller embodies the experience of thirty years of medical service in a difficult but typical highland area. Dr Miller was a member of the Dewar Committee, the Departmental Committee appointed by the Treasury to investigate the medical needs of the Highlands and Islands as a whole. The experience of his own locality he is thus able to record in the larger perspective of the general survey. His report is an essay of special value in the sociology of rural medical service. He describes his illustrative cases with a selection of detail and a relevance that only the skilled writer can command. These cases show the extraordinarily wide basis on which Dr Miller has framed his practical judgments. By many subtle and sympathetic touches he secures for his picture the very atmosphere of life in the glens and on the hills. His words are everywhere informed with feeling; and that is, perhaps, the peculiar excellence of the record. It is rare to find in combination social insight, scientific precision, and literary grace.

REPORT BY A. C. MILLER, ESQ., M.D., F.R.S.E., MEDICAL OFFICER OF HEALTH, FORT WILLIAM.

1. *General Features of District.*—In submitting the following report, the writer thinks it may be helpful to prefix an introductory statement regarding the general character of the area to which his observations apply.

The County Council District of Lochaber in Inverness-shire, constituted as such in 1889, is comprised of five parishes, namely: (1) Kilmallie (including the police burgh of Fort William), (2) Kilmonivaig, (3) Arisaig and Moidart, (4) Small Isles (Canna, Rum, and Muck), and (5) Glen Elg (Morar, Knoydart, and Glen Elg proper).

For purposes of more intimate record, the conditions that have obtained in the parish of Kilmallie, together with that portion of the present parish of Ardgour in the county of Argyll which was, before 1905, incorporated in the civil parish of Kilmallie, will be discussed in the course of this report; but as during an experience of thirty years it has fallen to the writer to come in contact, through consultation and otherwise, with cases not occurring within the limits of his individual practice, it is thought that some value may attach to the extra-parochial knowledge thus obtained.

SPECIAL STUDIES: MAINLAND DISTRICT IN HIGHLANDS

It may be taken that the statistical results and the conclusions to be derived from them are such as generally apply throughout the population residing on the western seaboard and the inland territory adjoining.

2. *Topography.*—Topographically the district is typically "Highland"—that is, in presenting mountain, glen, and moor, river, lake, sea-loch, and open ocean in more or less close relation.

The life and occupation of the people are conditioned by these environments and by what they connote.

3. *Area.*—The extent of the Lochaber County Council District covers an area of 752,799 acres. The population (Census 1911) was 7039. Approximately, there is thus an acreage of 106·9 acres to each person. By way of contrast, it is found that the burgh of Fort William (population 2006), not included in the County Council enumeration, gives a density of 13·712 persons to the acre, or ·072 of an acre per person.

The Argyllshire parish of Ardgour has an area of 90,500 acres and a population of 586 (1911); being thus 154·6 acres per inhabitant.

Through the courtesy of the Board of Agriculture for Scotland, the following statistics with regard to the Lochaber District are furnished:—

(1) Extent of land under deer-forests	400,000 acres
(2) Mountain and heath land used for grazing	402,000 ,,
Of which—	
(*a*) Included in holdings exceeding 100 acres	381,000 ,,
(*b*) Included in holdings not exceeding 100 acres	21,000 ,,
(3) Total area under crops and permanent grass	9,250 ,,
Of which—	
(*a*) In holdings exceeding 50 acres of such land	3,600 ,,
(*b*) In holdings not exceeding 50 acres of such land	5,650 ,,

Note.—The Board of Agriculture explain that the discrepancy of 58,450 acres between the "actual" acreage (752,799) and the "classification" acreage furnished to them (811,250) is presumably due to that area being returned both as deer-forest and grazing land.

From these figures it can be deduced that the total acreage utilised in connection with the small holdings of the peasantry is 26,650 acres, while deer-forests and large farms absorb the balance of 726,150 acres.

Wood forests are distributed throughout the deer-forest and large-farm areas. Not until recently have the former subserved an appreciable factor in the occupational interests of the people.

4. *Races.*—Racially the people are predominantly Celtic. To a native it is comparatively easy to distinguish by build, feature, and complexion certain shades of type as indicative of particular localities. From the tall men with more or less light hair and blue eyes, to the smaller men with dark hair and black eyes, there are infinite combinations and varieties. But occasionally a reversion to what may be supposed to be original purity of type is met with, and the classic Celt stands revealed.

The semblance of pre-Celtic physiognomy and stature is more rarely encountered. As they are now, the people in general offer the appearance of well-proportioned and well-nourished men and women, and the standard is well worthy to be preserved.

5. *Occupations.*—The main occupation of the population is related to the land under the subdivisions of (1) crofting; (2) farming; (3) deer-forestry; (4) moor-shootings (grouse, etc.). Sea-fishing is a secondary though important accessory in the insular and littoral regions. River and fresh-water lake fishing gives employment to a considerable number of men.

Railways and the Caledonian Canal require a large permanent staff of surfacemen, lock-keepers, etc., for their services; but, in the ordinarily accepted sense, there are no manual or mechanical industries apart from the trades concerned in ministering to the personal and domestic requirements of the classes engaged in the chief occupation above referred to. The life of the people is simple, healthy, and active.

Crofter.—The crofter tills the soil, sows, trims his crops, and, in due season, reaps. He attends to his cattle, to his sheep. He digs potatoes and cuts peats. If, further, he owns a boat with lines and nets, he occupies spare time with fishing. Income varies with size and fertility of croft; may average from £30 to £50 per annum.

Cottar.—The cottar who, in addition to his cottage, may rent a small allotment of ground, is in the position to hire his services to crofters, farmers, or sportsmen. Wages according to local current wages—from 18s. to £1 per week; not constantly employed.

Shepherd.—The shepherd in the glens has daily to pursue his round of fatiguing and often exposed pastoral duties. With lambing, shearing, and "dipping" his work becomes actively laborious. In autumn and spring he treks to and from the "wintering" with his flocks. His pay is meagre—comparatively to his usefulness and his toil. Free house, say, £5; wages, in money, say, £20; 8 bolls of meal or flour at 30s., £12; 2 cows, etc., grazing, say, £10; potato plot, etc.

Ploughman.—The ploughman is the handy-man about a farm, acting as stableman, cattleman, and carter. He, too, is none too well remunerated, judging from the general degree of comfort to be observed in his domestic environments. Wages, £20 to £25; and "keep," if single. If married, free house, 6 bolls meal, same wages in money, free fuel or £5 in lieu thereof, potato plot.

Gamekeeper.—The gamekeeper is a person with a comparatively easy round of duties. Socially he is a favourite of fortune. He comes in contact with the wealthy sportsman and probably derives something of prestige from the fact. His circumstances are generous in the scale. The function of the gamekeeper is to kill furred and feathered vermin, to supervise the rearing of calf-deer in the spring, to attend to artificial feeding of the deer in winter, to stalk with the sportsmen during the "season." If the shooting is a mixed one, he superintends the kennels. Free house, say, £10; an ordinary average wage of 25s. per week=£65; land, plus grazing for cows, and house, value, say, £20; handsome gratuities from sportsmen.

Ghillie.—The ghillie's avocation is that of assistant to the gamekeeper, mostly confined to the summer and autumn months. He looks after houses and dogs, he carries rifles and ammunition and provender for the shooters. He secures and transports the day's bag. Say, 20s. a week, plus keep; not constantly employed; tips from sportsmen.

Water-Bailiff.—The water-bailiff, or river watcher, exercises with regard to the stretch of water under his charge a similar kind of tutelage to the gamekeeper with his forest and moor. He wards off poachers, patrolling his beat if necessary through the night watches. He keeps fishing tackle and boats in repair and readiness. He is the faithful adviser of the "gentleman" fisher, his companion and guide. The ghillie, as subordinate, also finds function in this capacity.

Surfaceman.—Of recent years, with the advent of railway communications in these parts, a new order of workman has been introduced whose duties are of so exacting and so important a nature as to seem to call for mention along with the foregoing. Wages 26s. per week=£67, 19s.; house rent deducted; fuel charged at reduced rate; no cow.

The stretch of line from Rannoch, say, to Mallaig is 77½ miles, and from Spean Bridge to Invergarry 16 miles, or 93½ miles in all. To maintain and guard the way, a surfaceman is detailed for every 2½ miles. He has got to constantly inspect every sleeper, every "chair," every bolt of rail in his section; has to warn about any sign of subsidence, or obstruction; and in rain, wind, and snow he must never abandon his post.

Obviously, for work of this kind, supporting workmen have to be held in reserve at convenient centres, and they constitute what in railway parlance is called the "flying squad."

The lonely surfacemen are provided with dwellings either on or in the proximity of their beats, and, strange as it may seem, to these "shanties" they frequently find wives to accompany them and to bring up families.

6. *Housing.*—Having thus in brief manner enumerated and sketched the main classification of occupation, it remains to consider the question of their housing as it has existed and now exists. In the middle eighties a turf hovel with thatch roof, earthen flooring, small fixed-pane windows, and a single opening on the top for egress of peat- and wood-smoke was the traditional habitation of the quite respectable crofter and fisherman.

As a rule there was a "but" and a "ben," the partition of living-room from sleeping-room being effected by a structure of "wattle" (wicker-work whose interstices were filled with clay or mud) or of turf or planking.

Further subdivision was afforded by the closet, which might be used as additional dormitory or as milk, potato, fuel, or net-and-tackle store, or as all combined. The writer recalls one such closet, mysteriously darkened and odoriferous, that contained a huge cask filled with accumulation of human urine preserved as "wash" for use in the process of dyeing homespuns from yarn.

It was not unusual to find that the cattle byre communicated directly with the dwelling by detachable or hinged door; calves, pet lambs, and poultry being freely admitted into domestic fellowship. Organic emanations were deemed to possess wholesome, rather than insanitary properties. With our present knowledge, it is remarkable that the race survived such conditions at all. Only the open-air life preserved them, and at that, perhaps, only the "fittest" remained. But since the early period referred to a process of evolution towards betterment in housing has been in operation.

Contemporaneously with the houses of turf walls there existed those with stone walls, sometimes massively thick (2 and 3 feet in width), either "dry" or joined with mortar, and with built-in flues. Renewals always give evidence of upward gradation. The outer turf walls have practically been abandoned. The ambition and the tack are towards stone and lime. Chimneys are adopted; thatch is giving way to slate; rafters to wooden roofs. Even, not uncommonly, an upper floor is introduced, with stair access, and subdivision of the house into four apartments. The earthen floor shows reluctance to disappear. The lean-to byre persists too generally. The communication between house and byre has gone.

7. *Water-Supply.*—Water of the purest quality is practically everywhere in abundance except during hot summer seasons, when springs and burns dry up. In the latter event, water may have to be conveyed from the nearest lake or river and stored for domestic use.

In some hamlets, not purely "crofting," a water scheme has been arranged, so that the risk of shortage there is minimised. Laid-in water-supply is almost never found in crofters' houses.

8. *Sanitation; Drainage.*—Inside sanitary arrangements are practically non-existent in rural cottages. Except for inconvenience, no health danger arises in consequence. During times of illness, however, the inconvenience may be very irksome.

The time-honoured custom of casting solid and liquid excretions, together

with organic domestic refuse, on to the "midden," too often situated within hand-throw of the house door, constitutes a very real danger; and the pernicious custom is difficult to abolish. The proximity of the byre also, with its accumulation of manure, increases the insanitariness of the immediate environments.

From these causes arise diphtheria, croup, enteric fever, and the less definable disorders of blood and nutrition that from time to time demand attention in otherwise presumably wholesome surroundings.

Crofts are for the most part within easy access of the seashore or are situated on the slopes of inland water-ways.

Except in a few townships the individual steadings stand well apart, so that contiguity of dwellings, with the refuse proceeding therefrom, does not usually enter as an element in causing disorders arising from insanitation. Each croft may be said, sanitarily speaking, to be self-contained and self-responsible.

The conditions described in regard to housing and sanitation may be held to apply to the other sections of the community of the same class.

9. *Food.*—The staple food of the rural inhabitants consists of milk, oatmeal, potatoes, fish, fowl, eggs; with the purchased accessories of bacon, meat (flesh), flour, etc., etc.

The daily dietary comprises three (or four) meals, according to the means of the family, and may be tabulated as follows:—*Breakfast*: Porridge and milk; tea, with oatcakes, scones, and butter; eggs, bacon, fish. *Dinner*: Fish (fresh in summer, salted in winter), herrings, ling, cod; or broth, with vegetables and with meat (fresh or salted); potatoes (invariably); "curds." In addition, frequently tea and oatcake. *Tea*: Tea, with buttered scones, oatcake or bread; eggs or cheese; potatoes also as a rule. *Supper*: Porridge and milk, or cheese and potatoes, with tea; or oatmeal gruel; or milk and potatoes; or milk and scones.

These may be regarded as the standard diets, varied according to taste, habit, and season. Tea is the universal "constant"—more so than even milk. The quality is probably better as a rule than that found in industrial homes in the cities, but this advantage is only too generally counteracted by the vicious method of decoction. Long habit has created a perverted palate for strong, black infusion, which alone seems to satisfy. Tea is always on "tap," and the women are inveterate consumers.

Children's Dietary.—The dietary of children ascends from the breast milk of the lactation period, through the stages of (1) milk (cow's) and "lithac" (solution of strained oatmeal boiled into jelly); (2) milk and potatoes; (3) milk, bread, and eggs; (4) gravy and potatoes; (5) broth and bread or potatoes; (6) fowl or meat; and, finally, the proportional share of adult dietary as sketched above.

Milk-Supply.—Tea is too early and too freely administered to children. Milk is not by any means so constantly available as might be inferred from the fact of rural surroundings and facilities. It is abundant everywhere in summer. During spring, autumn, and winter the supply becomes scanty. It is a matter for surprise how commonly it appears to cease entirely, notwithstanding the presence of kine in the family homestead. And it is a deplorable fact that country children are deprived of this primary essential of sustenance when town children enjoy the privilege, through being able to draw upon dairy supplies. There would seem to be a lack of intelligent forethought on the part of rural residents in not arranging for the calving of cows so as to ensure a winter supply of milk—even if the excuse be that scarcity of fodder and the expense of foodstuffs operate as obstacles to the encouragement of winter calving.

Condensed milk and tea are poor enough substitutes. It ought not to be beyond the competence of recognised authorities to regulate individual caprice or convenience in so important a matter.

10. *Clothing.*—The fabric in ordinary use for outward vestment is "tweed" cloth. Some among the shepherd and better-off crofter class

send their wool to the mills to be manufactured into all-wool cloth. For underwear, cottons, linen, flannel, and woollens are employed. Stockings are knitted from woollen and worsted yarn, the former being rougher in texture and warmer.

Bed-clothing is generally made from homespun wool. The people cling to their own gathering of wool for this purpose if at all possible, failing which, "Scotch" blankets are purchased. A pair of 2-ply blankets is the usual equipment for a bed, with either a cotton or blanket undersheet and a coverlet above. The weight of a Scotch blanket is about 14 lbs.

Footgear.—Shoes and boots are obtained from the ordinary sources. The home-made "brogue" is a thing of the past. "Clogs," *i.e.* wooden-soled boots, are unusual, but are occasionally seen in wear by children. They are regarded as a sign of social inferiority, which is to be regretted; as they are less liable to leakage and erosion, and, being cheaper, renewals could more easily be afforded. Two changes of footgear per annum for adults and children are reckoned a sufficient rotation.

Bedding.—Mattresses are made up with wool, flock, or straw. Feathers are employed in pillows. They are not now so much in vogue in bedding.

11. *Family Life.*—Having thus considered the main externals relating to rural existence, it may be proper to endeavour to describe the more intimate conditions of home life as they appear under fairly usual circumstances.

Beginning with the old couple who have reared their family and who, by reason of growing infirmity, are beginning to yearn for assistance in the upkeep of the home, it need not be wondered at if utilitarianism mixes with their sentiment in encouraging the matrimonial ambitions of the son who has elected to remain with them as their stay and support. "'N aon taic tha againn" ("The only stay we have"), as is so often plaintively heard in these days of recruiting tribunals and calls!

Wifehood.—The young wife is in due course introduced to the family circle. Her activities are manifold. She prepares and cooks the food. She cleans the house, arranges bed-making, washes, knits, and sews. She collects the fuel. She milks the cows in the byre. She tends the poultry and assists in the cultivation of the croft.

To the extent they are able, the old people render help in their several ways, and it may be assumed the husband is ready also to lend a hand in the domestic management. But there is little relaxation for the wife at the best. There is no "off-time," no holidays for her. Only at kirk and market —which latter means nowadays the visit to the nearest township possessing a "shop"—is she privileged to don her best attire.

Soon the premonitions and actual burden of child-bearing supervene. It is an added and accepted event for which little provision is made. Life goes on the same. In the fullness of time the first-born infant arrives. The conventional lying-in period of a week is passed without much derangement of routine. All the while the mother keeps an eye upon household affairs and directs operations, and when she rises from childbed she resumes full charge.

The "grannie" takes kindly to the handling of the babe and all goes well, but only for a time. As the months and years pass, the old people

become more of a care than a help. Their frailties gather. Infirmity, if not acute illness, compels them to a more or less "bedfast" existence, and, through a longer or shorter period of attention, they decline and die.

The mother finds herself relieved of one set of responsibilities only to be faced with others. Recurring pregnancies and the increasing demands of her children passing on to and through school-age involve her in perpetual work and thought. Eventually, the menopause brings relief from physiological and physical oppressions; and if successfully emerged from, the mother glides into a period of comparative well-being and content.

Her children—let it be taken—are a source of pleasure to her, and, as they grow up, become an active support in the conduct of the home. But in process of time senile changes, senile weaknesses, arrive, and the domestic cycle is completed; to be succeeded, with other actors, by the next.

In the foregoing portrayal conditions are described at their best, and shadows are only lightly drawn. The type of life is subject to all manner of variations and vicissitudes—comparative poverty and comparative comfort—dependent upon individual industry, cleanliness, thrift, and, beyond all, upon health.

More detailed investigation of some of the incidents and accidents bearing upon the course of life, as it is and has been lived by the residents on their area, will reveal that in many ways they have been and are subject to disadvantages which it may be hoped directed measures and methods may do much to ameliorate or remove.

Although Nature in her normal trend is merciful, benign, and healing, there is the other aspect in which she can be unforgiving, intractable, and ruthless. It is this latter view that arrests the attention of philanthropy and science. And when the motherhood and the childhood of a race are at stake, no higher or nobler end can be invisaged for these twin faculties than the devisal of means of protection of the lineage and, incidentally, for the happiness of the individuals who are the instruments of human destiny.

12. *The Expectant Mother.*—The expectant mother is charged with the supremest office. To descend from the general to the local and personal, let it be followed how precedent and habit, as understood in these parts, cause her to comport herself. On becoming aware of her condition she most likely informs a relative or friend. Pregnancy proceeds. The routine of domestic life goes on as usual. Towards the end she may or may not make preparations in the way of securing an attendant for the expected time. It may simply be a neighbour woman, or a woman reputed to be "skilly" in such contingencies. Or if a nurse is available in the locality, she may be informed and engaged. Or, as is coming to be more generally recognised and adopted, a doctor may even be instructed beforehand.

The last is a concession to modern education in this kind. The practice of antepartum examination of expectant mothers has not yet been instituted; long distances may be prohibitive for the doctor; ignorance, indifference, and modesty may restrain the primiparous client from coming to him.

Only under rare and exceptional circumstances does the expectant mother consent to leave her home for the purpose of being accouched within easy access of doctor and nurse. Argument and persuasion have to be employed. Sometimes they succeed. The following instances may be cited:—

(1) Young woman, about 20; 34 miles from doctor; came to board near him; first child; difficult labour, required anæsthetic and forceps. Had this patient been confined in the wilds the doctor would have had to travel 68 miles on his first visit, and there could have been no adequate attention during the puerperal period.

(2) Woman, about 30; 34 miles away; no vehicular access, only by rail; first child; agreed to take a room near doctor; attended by district nurse; forceps; normal recovery. This woman was saved much anxiety, and the doctor much trouble. She repeated the arrangements for two subsequent confinements, but declined to leave the house for the last. She engaged a nurse from a distance, but labour set in, apparently prematurely, and no nurse was present. A neighbour woman was hurriedly called—4 miles off—and she attended until the arrival of the doctor on the following day. There was no subsequent visit.

(3) Woman, about 40; 38 miles; access by rail only; first child. Agreed to come to house near doctor for confinement; labour proved very difficult; narrow pelvis and occipito-posterior presentation; fœtus extracted—dead—after prolonged effort; slow recovery. Had this woman not consented to come nearer the doctor she would probably have succumbed to parturient exhaustion before the doctor could reach her.

(4) Woman, about 34; previous confinements at her own house (17 miles), but as her last one was followed by phlegmasia alba she agreed to take a room near doctor. Labour normal, but slight threatening of phlebitis during puerperium. The obvious advantage in this case was that the after-care was closely supervised and recovery hastened thereby.

(5) Woman, about 38; 10 miles away—6 by road, the remainder over a steep "pass" in the mountains; persuaded to take a room near doctor; primipara; first child; difficult, forceps; two doctors in attendance at delivery; good recovery. On a second occasion the patient adopted same course.

(6) Woman, about 30; 22 miles, of which only 14 negotiable to vehicle, remainder either by boat or on horseback and foot; first child; patient was intelligent, and accepted advice; took a room near doctor's house; labour rather tedious; forceps and chloroform. Recovery uneventful, except for the incidental formation of an alveolar abscess which pointed externally on the cheek and required regular dressing. At a subsequent pregnancy this patient elected to go to her own relatives (within easy reach of a doctor).

(7) Woman, about 19; first child; 21 miles. Came near doctor's house to be confined and was accommodated in the rooms of a maternity nurse, where all went well.

There have been instances of cases where expectant mothers have agreed to leave their homes for confinement at places relatively more accessible to the doctor, although not within pedestrian distance of him. Thus:—

(8) Woman, about 30; 24 miles; agreed to come to within 15 miles of doctor's house; first confinement; conducted satisfactorily, with forceps, etc. Later pregnancy more difficult; woman remained at home; child died.

(9) Woman, about 25; 27 miles; agreed to come down the glen (16 miles); first child; forceps. The puerperium required attention, and several after-visits had to be paid in this, as in the preceding case.

13. *Nursing Provision.*—During the early years of the experiences herein recorded the nursing arrangements for attendance upon pregnant women were, for the most part, of primitive and casual nature.

The care of female relations and neighbours was, as a rule, considered to be sufficient. A doctor, however, if by any means available, was, practically in all cases, summoned; in order, at any rate, to regularise the family event. Only of recent years has the system of engaging a medical attendant beforehand come into acceptance. It is still far from being universal, and it is quite usual for the doctor to receive his first intimation at the behest of the message or messenger sent for his instant compliance.

But even before the dawn of specialised nursing as now understood, the common consent of remote communities—scattered or in groups,—either of chance or as the result of observation, conferred the distinction upon certain local women of being handy or "skilly" and gifted in obstetrical mystery. Some of these women, especially if cleanly in habit and of equable temperament, were useful. They waited upon nature and did not

"meddle." They knew how to separate the child from the afterbirth; they committed the placenta to the flames; they applied a binder to the mother, and they swaddled the newborn.

Of this type, the writer would record almost with gratitude the services performed by the late —— at ——, whence she was sought by women in travail for many miles around; and of another who exercised much common sense in rendering attention for many years to parturient women in that inaccessible region.

An advance was instituted under the reflected influence of Sir James Y. Simpson and that of the medical men who came to be affected by his epochal discovery. Maternity technic assumed a new importance. Women were sent South to acquire some training—women perhaps already recognised to have natural experience, or women whose circumstances elected them for some such calling; widows, as a rule, always of mature years. They became midwives—bean ghluin ("knee women")—the precursors of the present profession. They were placed by doctors, or clergymen, or by ladies interested in good works in localities known to require them. Thus, some forty years ago, the occurrence of a death from postpartum hæmorrhage at —— induced the clergyman of that district to send a woman to Edinburgh to be trained by Matthews Duncan. She returned after three months' tuition and carried out her avocation with great credit and success until increasing years (aged 76) compelled her to retire from active work. She is still called out in exceptional cases. Her presence inspires confidence. The writer took occasion lately, in view of this inquiry, to note down a simple précis of her story. "I have been in practice as midwife in the Braes of Lochaber for forty years. I was trained by Dr Matthews Duncan. I was taught by him to exercise patience and never to get flustered or to hurry. I have never had a death at confinement. The cases were mostly 'natural.' Few required a doctor. I judged by experience when to send for him. So long as the patient 'kept going' I felt all was well, and I did not get impatient simply because the case was tedious. Sometimes there would be a couple of days from the beginning of labour until the baby was born. Whenever there was difficulty I sent for the doctor."

Three women of this class have been trained for work in the Fort William district since the period referred to. With the institution of Jubilee nursing, a still further step has been made. Queen's nurses (for Inverness-shire) possess the qualification in midwifery in addition to their hospital training. *Without exception* they have proved eminently successful. They are the greatest boon. But, as their general duties prohibit their continued residence with a patient during the puerperium, their usefulness is limited to actual attendance at labour and to such subsequent visitation as the general claims of the sick community will permit. Accordingly, there is room for, and as a matter of fact there is in practice, a further class of nurse whose function has special reference to attendance on confinement cases, with subsidiary application to general sick nursing. Even in the case of this class there occasionally arises a disadvantage in respect that the nurse does not take up residence with the patient until labour has set in.

The various orders available for maternity nursing may be classified as follows:—

(1) Queen's nurses—present at confinement.
(2) District nurses—chiefly with maternity qualification, but also possessing an incomplete degree of general training and available throughout puerperal period.
(3) Maternity nurses—with maternity qualification only, and employed privately for residence during puerperium.

Throughout the Lochaber district area and in Ardgour the nursing staff at present is represented as follows :—

(1) Kilmallie (Fort William): one Queen's nurse, two private maternity nurses.
(2) Kilmonivaig:
Brae Lochaber: one district nurse (maternity).
Spean Bridge: one district nurse (maternity).
Invergarry: one district nurse (maternity).
(3) Arisaig: one Queen's nurse (on service).
(4) Morar (Mallaig): one Queen's nurse.
(5) Moidart (Acharach): one Queen's nurse.
(6) Ardgour (in Argyllshire): 1 district nurse (maternity).

The total of ten nurses allocated to the population of the rural district, plus the town population of Fort William (9631), gives approximately one nurse to every 963 persons. But a variety of facts, chief among which are those of distance and sparseness, modify very markedly the availabilty of each nurse in cases requiring her individual attendance at confinements. It has to be borne in mind also that the tendency of pregnancies to develop in "time-groups," so that several confinements come on within a short period of one another, is an element of confusion and difficulty in arranging and allotting attendance. Reference to case book shows, for instance, that two confinements took place on the 1st of January 1915, the distance between each patient being twelve miles; on 23rd January and 25th January a confinement is recorded for each day at distances from the doctor of one mile and four miles respectively. On 2nd and 3rd March there is a confinement. On 15th March there are two confinements at one and four miles; on 19th and 21st and 25th, each day a confinement. In May two confinements on the 5th, one on the 12th, one on the 15th, one on the 28th, and one on the 31st, the distances varying from one to twenty miles between the cases. It is perhaps needless to continue the enumeration, as the experience of close occurrences in midwifery time-tables is familiar to every practitioner; and, where nursing facilities are limited, the result is that while A. at one mile off may be privileged with the services of the local nurse, B. at fifteen to twenty miles off is necessarily deprived of her attendance.

As already indicated, in by far the greater proportion of cases the district nurse is not summoned to a confinement until labour pains have actually set in. As a rule, the doctor and nurse are sent for at the same time. The consequence is that much valuable time may be lost to the practitioner in waiting for the second stage; especially in primiparæ.

This is not as it should be; and a better understanding of the respective functions of nurse and doctor in the matter of preliminary attendance is greatly to be desired. Let it be admitted that economy in means of transport in negotiating long distances is a reasonable excuse for combining nurse and doctor in the same journey; it is not always compensation to the doctor for the superfluous energy and time expended.

14. *Difficulties of Access to Patients.*—To illustrate the difficulties of access owing to distance and terrain the following cases are brought forward :—

(1) It was late in the afternoon of a day in March when a telegram was received requesting attendance at a confinement in a shepherd's house. The stages in the journey began by taking pony and trap to the end of the road in the glen (6 miles). Thence on foot, over a precipitous defile, to the nearest shepherd's house (4 miles), where a pony was asked for and readily granted. Darkness had by this time set in and snow was falling. Such as it was, the track over the waste was obliterated. For guide the worthy old shepherd offered his herdwoman, a squat, sturdy woman of mature years who hailed from the Hebrides and who was inured to every form of climatic inclemency. Barely half of the next stage (3½ miles to the house of a gamekeeper) was accomplished when the pony sank to the girths in a bog, and, with much difficulty, the beast was helped to regain his footing. The track had been lost. The outlook was perilous. But eventually, the right path—probably as much from the animal's instinct as from the leader's direction—was got. The keeper's house was reached and the household aroused. Welcome hospitality was dispensed ; and the final stage (some 4 miles) was accomplished in company with the gamekeeper, both travellers on fresh ponies.

On arrival at the destination, the patient was found to have already given birth to twins. She herself was covered with measles. The only other occupants were the frail "grannie" and grandfather.

The doctor was provided with comfortable lodging in a gamekeeper's house close by, and returned by the same route on the following day.

The mother made a good recovery ; the infants died. Under similar circumstances the same itinerary would require to be adopted at the present hour.

(2) The patient's house was situated in a glen that embouches on to the main road at the head of a loch. The message was received on a stormy evening in February. Horse and trap were employed to the entrance of the glen ; but, unluckily, before reaching the point the horse stumbled into a hole on the road, the shafts were smashed, and both doctor and driver were thrown into the ditch. After "splicing" and tying up, it was necessary to retrace steps to the nearest dwelling—a gamekeeper's. The good man offered to accompany the doctor on foot with a lantern. He advised climbing a hill on the other side of the glen (some 1500 feet high) in order the quicker to reach the patient's house. By then, wind and rain had risen to a tempest and deluge. The light frequently gave out. But for the footsureness of the guide and his accurate knowledge of the ground, not that night could the objective have been attained. Possibly neither of the party would have returned alive. In the end, the shepherd's house was reached. No nurse—only a neighbour woman. The baby had been born for a couple of hours. The placenta required removal. The return journey was accomplished by the longer route along the glen. Driver and trap were found in a more or less serviceable condition on arrival at the gamekeeper's house. Mother and child progressed well.

(3) A telegram to a distant glen 5 miles from a ferry (10 miles). Ferry duly negotiated and a trap requisitioned on the other side. Lammas floods in progress. The loch was found to have overflowed the path that led to the patient's (shepherd's) dwelling. Partly by wading and partly by climbing the rough hillside, in the growing darkness, the sheiling was reached. No nurse ; baby already born ; placenta retained ; considerable hæmorrhage. Recovery was slow, owing to the intervention of phlegmasia.

(4) Another case in the same neighbourhood, 1 mile from the ferry. The ferryman declined to cross on account of the high wind and adverse tide. Crossing from the other side might have been feasible. Lights were flashed in order to attract attention. No response. The ferryman advised waiting until the storm would abate. A most miserable night was spent, sitting by the kitchen fire at the ferry inn. With dawn, crossing was effected, to find that the infant had been safely born the night before. Grandmother in attendance. The folks had concluded the doctor could not cross the ferry and had not thought of looking for his intimation by signal.

(5) Head of Loch E——. This locality is very tedious of access. The method is—public road (15 miles), after which a pony track along the side of Loch E—— for 13 miles. Thence by boat to shepherd's house at Kin Loch R—— (west shore), or by foot to Glen N—— (3 miles), or by pony or foot to Glen S—— (4 miles) ; and if the call were to Glen L——, a valley lying between and parallel to Loch E—— and Glen T——, the access is by climbing over the intervening mountains. The old lady to whom reference has already been made was the help for many years to women in distress. As usual, the doctor was sent for *after* labour had set in, the messenger had

to ride or walk from 13 to 20 miles (as the case might be) to the nearest telegraph office to summon the doctor. The doctor in turn had to be found, and before he could possibly reach the patient, labour, except in primipara, had proceeded to its conclusion.

The old lady tied and divided the cord, separated the infant, and awaited the expulsion of the placenta by natural powers.

It is remarkable how rarely mishap resulted in these cases. They generally did well. But as the doctor's visit was nearly always expected, the physical difficulty of access remained the same for him. Until recently, owing to the introduction of motors and bicycles, which partly reduce the time occupied, two days were required for performing the journey; and the writer has known three days to be occupied by attendance at one primiparous confinement. The rest of the practice, all the sick in the surrounding huge area, were in the meanwhile abandoned to fate. Regular nursing in these circumstances was, and remains, difficult. The journey itself—13 or more miles on foot or horseback—is almost prohibitive physically.

For the sake of mothers and their unborn offspring, for the sake of nurses and other attendants, some form not merely of persuasive but of compelling regulation is needed to put a stop to the risks and emergencies involved.

(6) To show that the chances are still taken, the following quite recent case may be recorded: Woman, aged 30; fourth child; 23 miles; was confined in 1914; no nurse, only a neighbour. Delivery completed with forceps; child stillborn. In 1915 the family removed to a still more distant glen, the husband having taken a situation there. Confinement duly took place. A gamekeeper's wife a few miles away was called. Labour was rapid—a living child born. No nurse or doctor was sent for, and it is quite doubtful whether that birth finds record in the Births Register of the Medical Officer of Health.

(7) Woman, aged 40. The glen is accessible by one of two routes, elected according to climatic conditions and the degree of urgency. The longer route is by highway (14 miles), thence on horseback for 7 miles. The shorter "cut" is by trap for 11 miles, thence by foot over a mountain (marked 2000 feet in the survey map). The descent on the further side in the darkness—lit by the time-honoured lantern—is quite perilous. The latter is the method favoured by the residents, and the doctor is dependent on their guidance. The state of nurse and doctor after struggling with a toil of the nature described does not tend to that calmness of judgment in applying the skill so desirable in conducting maternity manipulation and technique. Fortunately nothing was required. The baby had been safely born, a neighbour woman being in attendance. After necessary rest and sustenance, medical man and nurse returned as they had gone.

(8) Woman, aged 50; 10 miles; a difficult mountain road; message late on a winter evening; track flooded and obstructed by partly melted snow wreaths. On arrival, baby born—placenta retained; servant-maid present. Owing to the state of the roads, the return journey was not ventured upon till daylight. Satisfactory recovery of mother and infant.

(9) Woman, aged 21. Lonely cabin inhabited by the man and wife. She—primipara—had declined all persuasions to go within reach of a doctor. Labour set in on a wild night. Shepherd's wife procured with difficulty owing to deep snow. Doctor telephoned for. He was accommodated with a seat in a relief train, hurriedly prepared to carry the "flying squad" gathered together for the purpose of clearing the through line. The locomotive was held up at a certain point. After a few hours it was possible to proceed. On arrival, the baby was found lying in the bed, still attached to the cord, placenta undelivered, the patient lying in a pool of p.p. blood. Recovery was good. The experience did not prevent a repetition of obstinacy in the second pregnancy.

(10) Woman, aged 24; primipara; 7 miles; good road. Doctor summoned at early stage, pains barely begun; he returned home. Second journey, only to find progress very slow; stayed all night; forceps employed to effect delivery; recovery tedious.

(11) Woman, aged 22; neighbour of above; primipara; same slow waiting on; high forceps case; suturing operation necessary. Very tedious recovery after many weeks of phlegmasia alba, following an attack of sapræmia.

(12) Woman, aged 35; multipara; wife of crofter; 8 miles by sea; labour set in on a stormy night. Boat, manned by four oarsmen, could barely live on the sea. Case of narrow pelvis; previous labours difficult; always forceps. Had instrumental assistance not been available the patient might have died.

(13) Woman, aged 50; multipara; 10 miles by sea. Doctor in attendance had failed with forceps, and had sent for help. Pains had ceased entirely. No nurse; chloroform given and delivery effected.

(14) Woman, aged 40; multipara; crofter's wife; 12 miles. Previous confinements abnormal, but patient declined to leave her home. Footling presentation; difficulties

in delivery; artificial respiration necessary to vivify the infant. Had doctor not been present the child would not have lived.

(15) Woman, aged 42; primipara; wife of crofter; 16 miles; a long and difficult labour; no nurse; forceps. Twins born, of whom one died. Difficulty with placenta; septicæmia supervened, with death of the mother. The surviving child developed imbecility. The house was filthy; the fixed box-bed rendered nursing manipulation most awkward and unsatisfactory.

The cases related above are presented in order to show how seriously the question of distance and difficulty of access operate in the matter of timely and effective attendance. Although the cases may seem outstanding, they are such as habitually occur in the routine of maternity practice.

The conditions render medical life physically laborious. They are inimical to the welfare of pregnant women and their offspring as well. It is practically impossible for doctors and nurses to give satisfactory attention.

Urgent consideration of measures designed for coping with the disadvantages arising from distance in rural practice is called for; and two salient facts must be submitted in connection with such consideration, apart from the immediate problem of physical access. These are, the enforced absence of a doctor from the general routine and claims of the population while he is engaged in attending, it may be for many hours, one parturient woman, and subsidiarily, the effect that such prolonged absence may produce upon the mind of the practitioner in the way of inducing him to interfere with the perfectly normal progress of labour so as artificially to hasten its termination, in order that he may the sooner return to his central post of duty. In a less degree, the same objection with regard to absence applies in the case of district nurses whose responsibilities include general visitation of the sick. After-attendance by doctor and nurse is insufficient as a rule in ordinary cases, and when the puerperal period becomes complicated with untoward symptoms the irksomeness of adequate attendance is aggravated. The medical attendant always acts conscientiously, but there are limitations to his physical capacity for enduring fatigue.

15. *Difficult and Complicated Labours.*—In reciting the foregoing cases in connection with the subject of access, note has been made of their obstetrical character also; but it will be informative to submit in addition a series of records dealing with instances of difficulty in parturition such as from time to time—and perhaps more frequently than is generally assumed—confront the practitioner engaged in the course of rural routine.

(1) Woman, aged 23; crofter's wife; 30 miles; multipara; 3 stillbirths; no living child. Local doctor unable to attend; no nurse present, only female relatives. Labour in progress for 24 hours; delivered instrumentally; dead fœtus. This woman had been advised to go to a town for her confinement, but refused. The induction of premature labour would probably have resulted in a living child.

(2) Woman, aged 30; 4 miles; multipara; previous difficulties; no living child. Sent for to assist doctor in attendance who was physically exhausted with efforts to deliver. By dint of much chloroform and strenuous action by both medical men together, the fœtus was extracted, dead. Premature induction of labour might have saved the child.

(3) Woman, aged 38; crofter's wife; 14 miles. A neurotic woman, considerably older than her husband. Multipara, with several healthy children. First confinement had produced a monster. Present pregnancy complicated with hydramnios. An anencephalous monster with spina bifida was born. The creature survived for nearly a week.

(4) Woman, aged 30; wife of ploughman in same neighbourhood as previous case and about the same time; also neurotic (bad family history). Previous labours uneventful;

present labour presented transverse presentation. Delivery by turning; anencephalous fœtus born.

(5) Woman, aged 35; 8 miles. Labour difficult owing to uterine inertia and narrowing of pelvis. All attempts failed, and the woman died from exhaustion. Two doctors were present.

(6) Relative to the foregoing; woman, aged 19; primipara; wife of crofter; 1 mile, ferry; difficult labour owing to pelvic narrowing. Instrumental delivery, dead fœtus. Two doctors and nurse present. Same patient, difficult second confinement, but living child born. The contracted pelvis is evidently a hereditary abnormality.

(7) Given as an instance of triplets. Previous labours normal; present labour thought to be slightly premature. Three infants were rapidly born, they varied in size from about half to one-quarter the ordinary scale. They were perfectly formed and screamed lustily, but all died within twenty-four hours from birth.

(8) Woman, aged 21; domestic servant; primipara (illegitimate). Child had to be sacrificed to save mother. The patient made a very slow recovery. She died a year after from nephritis.

(9) Woman, aged 22. Previously referred to as case (4) in difficulties of access section. Was on second confinement attended by her mother alone. The infant was born under similar circumstances to those related above, and was still attached to the cord when the doctor arrived several hours later. Notwithstanding the previous experience, the woman declined to leave her home and her husband. Mother and child did well.

(10) Woman, aged 30; 50 miles; access by rail only. No doctor present at confinement, but called in when puerperal sepsis supervened. A "friend" in attendance; death occurred; the child survived.

(11) Woman, aged 27; 27 miles; access by rail and mountain path; primipara. No doctor present; same "friend" as in preceding. Septicæmia and death of the mother. Infection had doubtless been communicated by the attendant woman.

(12) Given as a further instance of infection. Woman, aged 36; circumstances comfortable; multipara; exceptionally fine physique; always normal labours. Confined on the present occasion of a healthy infant. In a few days it was noted that the child was developing a red glaze of the skin. It rapidly succumbed. The mother simultaneously became pyretic. General erysipelas supervened and she died. The house was cleanly kept; nursing attendance was above suspicion as regards efficiency and cleanliness. Inspection of drainage and environments at the time failed to reveal any defect in respect of these.

A month or two later diphtheria attacked one of the children. Thorough investigation of the drainage system showed that although the immediate discharge pipe was clear, a deposit of sewage matter and refuse was apt to collect at the outlet during low states of the tide, and with wind blowing in a favouring direction noxious air was directed into the house.

(13) Woman, aged 40; husband older than wife; primipara. Labour very tedious owing to contracted or anchylosed pelvis. Delivery was effected with great difficulty. In the end three doctors were present, each supplementing the other in the operation of traction. Child stillborn; mother did well. But for effective assistance the patient must have died from parturient exhaustion. A second confinement in the same case, in the following year, was accompanied with less difficulty in delivery. A living child was born; it is mentally defective.

(14) Woman, aged 38; 4 miles; husband senior in years; primipara; instrumental delivery. The child showed symptoms of idiocy and survived till the third year, when it died of meningitic convulsions.

(15) Woman, aged 40; boarded-out lunatic pauper residing on a croft; primipara. Confined of a child, the father being an old man of 70, who was criminally convicted and sentenced for the offence. A boy was born without instrumental aid. He was mentally defective and, as adolescence advanced, developed objectionable habits. He is now confined in an asylum.

(16) Woman, aged 30; daughter of ploughman; 5 miles; mentally affected, but not certified; gave birth to a son; the father alleged to be an itinerant workman; primipara; no instrumental interference. The boy was weak-minded but harmless until the age of puberty, when sexual proclivities rendered it necessary to have him placed under restraint.

(17) Woman, aged 41; 14 miles; husband aged 65; primipara; twins born with the aid of forceps; both were affected with talipes. Throughout childhood they were delicate, showed ocular defects and sub-tuberculous manifestations. The mother was intelligent and careful, and the children grew up to womanhood. They are now in positions of usefulness.

The last four cases quoted are interesting in their several degrees, as indicating the pathological possibilities of late marriages and pregnancies.

(18) Woman, aged 21; 5 miles; primipara; doctor summoned to find patient in eclamptic convulsions; sedatives and hypnotics of little avail; labour proceeded rapidly; child delivered, stillborn; mother passed into coma and died. Had there been a prepartum examination of this woman (urine especially), it is possible the fatal disaster might have been arrested.

(19) Woman, aged 30; multipara; 8 miles; doctor called in before confinement on account of œdema in legs; urine loaded with albumin. Remedies, chiefly purgative, administered, and milk dietary prescribed. No appreciable improvement in the swelling, or albumin content. The event was awaited with apprehension. Labour set in, perfectly normal in progress and terminated favourably, with a living child.

(20) Woman, aged 36; primipara; wife of crofter; distinct tendency to eclampsia; convulsions shallow; child delivered instrumentally; both made good recovery.

It is a matter of common knowledge that fecundity is often associated with squalor in domestic habits and environment. The following cases are adduced as examples of the type:—

(21) Woman, aged 43; wife of labourer; Outer Hebrides; comfortable in circumstances and not unthrifty, but most complacent towards uncleanliness; multipara; eighth confinement; twins; no difficulty; twelve children alive; a previous case of twins. All healthy in infancy, but it has been noted in some of them that they become puny and sub-tubercular. The eldest daughter gave birth to an illegitimate child a few months after the mother's last confinement, and both children are being reared together.

(22) Woman, aged 28; island born; healthy and well-behaved; very slatternly in housekeeping methods and attire. Confinements frequent and normal; children weakly from an early period.

(23) Woman, aged 40; wife of small landholder and dairy crofter; 2 miles; island born; confinements regularly biennial; twelve children in all—up to the present. They are splendid specimens of young humanity; probably the abundance of milk in the home has been their stay during the growing period.

(24) Woman, aged 45; wife of small landholder; multipara; fourteen children; last confinement delayed owing to uterine inertia; habits similar to foregoing. Children developed splendidly, owing also to liberal supply of home produce in milk, oatmeal, and eggs.

(25) Woman, aged 35; subject of a chronic, but not infective, skin trouble; frequent confinements; children ill-nourished and tend to decline from birth. They exhibit marasmus, enteritis, and tubercular meningitis in their death-roll. The housing is wretched; the domestic neglect is conspicuous. There is no poverty, and both mother and father are industrious in their way.

(26) Woman, aged 45; multipara; fourteenth confinement; very tedious owing to uterine inertia; infrequent and ineffective pains; delivery by forceps; safe recovery. Children grew up strong and healthy; open-air and copious milk-supply their salvation; for here, too, the housekeeping was distinguished by apparent belief in the doctrine that "dirt is healthy."

Instances might be multiplied of cases of maternity showing abnormalities, complications or associations with unwholesome conditions; but probably sufficient have been stated for the purpose of illustration. It may be added that cases of severe postpartum hæmorrhage are rare. In the experience of the writer there has not been a single fatality from this cause. The same has to be said in regard to placenta prævia. It would be unsafe to deduce confident conclusions, however.

Occipito-posterior presentations seem to be more frequent than might be expected in dealing with a population where perhaps the nearest approach to normal obstetrical processes might be looked for. Presentations requiring version are more occasional than rare.

Miscarriages are not uncommon, particularly amongst women of the actively industrial class. They entail a great amount of care and attendance on the part of the practitioner, and may be regarded as equally worrying with cases of difficult labour.

16. "*Tinker*" *Confinements.*—Reference may appropriately be made to the occurrence of confinements amongst the itinerant tinker tribe. These people are shrewd enough in view of an expected confinement to pitch their tents in the neighbourhood of a town or village where medical aid can be summoned.

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Labour is conducted often almost in sight of the passing public, and, at the best, under the most hampering conditions. The infants not infrequently succumb to exposure. The license accorded to the class to make no provision for maternity claims ought, in the interests of decency and humanity, to be converted into a penal misdemeanour.

(1) A solitary tent at the roadside; market stance, 1½ miles away; message to the doctor. Found the whole establishment patent to public gaze. A blanket was hurriedly fixed to two pieces of branch to act as screen. Parturient woman lying on a pallet of rags. No warm water available. Labour normal; infant born. They remained for two days, and then disappeared.

(2) Tent on same ground, but more removed from the highway; same conditions; a dead fœtus delivered. Disappearance of the parties on following day.

(3) Doctor summoned; 9 miles. Found a tinker woman lying on a bundle of straw in an outhouse of a one-time little inn; child already born. The doctor bundled mother and child into his car and conveyed them to a room provided by the Inspector of Poor.

(4) Telephone message; 3 miles away. On arrival doctor found baby born at the back of the boundary wall. Mother covered by a few shawls. A woman was sent out and the mother and infant were transferred to the Parish Council room.

These are quite recent cases.

17. *Analysis of Cases occurring during past Three Years.*—Analysis of the last 150 cases recorded in the writer's maternity case book (1914–1916) furnishes the following results :—

Year.	Primiparæ.	Multiparæ.	Normal labours completed without anæsthetics.	Labours assisted by anæsthetics alone.	Labours conducted by means of forceps, etc., and anæsthetics.	Totals.
1914 . .	20	43	16	7	40	63
1915 . .	11	36	20	2	25	47
1916 . .	10	30	13	3	24	40
Totals .	41	109	49	12	89	150

Normal labours not requiring interference were thus 40·7 per cent. Labours in which operative measures were adopted were 59·3 per cent.

The high percentage of instrumental cases is in part to be accounted for by considerations of time and distance, entailing the absence of the practitioner from the general demands of his practice; a point that has been already alluded to.

Special Abnormalities.—Of abnormalities quoted in connection with the above series are :—

(1) Uterine fibroid 2
(2) Diabetic primipara 1
(3) Face presentation 1
(4) Postpartum hæmorrhage 1
(5) Anencephalous fœtus 1
(6) Child born with harelip 1

The number of stillborn children was 4.

Occipito-posterior presentations were a considerable proportion of the forceps cases. Eleven times out of the 150 the babies were born before the arrival of the doctor.

Nursing Attendance.—A nurse was present along with the accoucheur at 122 confinements. No nurse was present at 28 confinements.

Distances Travelled.—The distances traversed by the doctor in his first visits to the parturient patients referred to in the above list varied from within one mile to thirty-eight miles from the practitioner's residence. The great preponderance lay within walking distance—namely, in the town of Fort William,—but even allowing for this, the average mileage per first attendance is seen to be considerable, and in many instances too far for satisfactory results to patient or doctor. Formulated in columns, the figures are :—

1914,	total mileage,	610 miles.
1915,	,,	336 ,,
1916,	,,	556
	Total .	1502 miles.

Average distance per visit :—

1914, 9·6 miles,
1915, 7·5 ,,
1916, 14·0 ,,

or an average for the three-year period of 10·36 miles per visit.

The actual distribution of the cases was as follows :–

Year.	Within Burgh of Fort William.	In Rural Area.
1914	40	23
1915	29	18
1916	18	22
Total	87	63

Being for burgh of Fort William . . . . 58 per cent.
,, rural area . . . . . 42 ,,

By eliminating the burgh confinements from the total results, it is found that the average accouchement mileage for the rural area during the three-year period is increased to 21 miles per first visit.

In regarding the case-book statistics it has to be borne in mind that they concern one individual practice only, and that there are six other practitioners operating throughout the area ; so that the cumulative returns must be correspondingly enlarged, but obviously it is impossible to procure figures.

For purposes of determining distance relationship it is permissible to draw a distinction between burgh and landward district, although, in most other respects, the populations are identical and homogeneous. It may, moreover, be assumed fairly confidently that the observations and conclusions derived from the foregoing study of the three-year maternity period are generally representative of the conditions attaching to rural practice in the region designated.

Examination of the Registrar's Returns applicable to the Registration District of Kilmallie, which includes the burgh of Fort William and part of the parish of Ardgour (Argyll), as well as the main landward portion of Kilmallie parish (for the three decennial periods from 1886 to 1915), shows that 2209 confinements in which living children were born took place during these years.

Population of Registration District : Nether Lochaber in Kilmallie and Kilmonivaig Parish not included.

1881	3372
1891	3448
1901	3580
1911	3495

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In the 1st decennium the number of births was	724
„ 2nd „ „ „ „	821
„ 3rd „ „ „ „	664
Total . . .	2209

Census, 1891, 1901, 1911.—Comparison between the local figures and the census returns of the Registrar General for the mainland rural district of Scotland reveals that Kilmallie has been below the mean, thus—

Birth-Rate per Thousand of Population.

	Kilmallie (Local).		Mainland Rural (Reg. Gen.).
Mean for decennium 1886–1895 .	20·586	1881–1890 .	28·85
„ „ 1896–1905 .	23·448	1891–1900 .	27·06
„ „ 1906–1915 .	18·784	1901–1910 .	24·70
	20·939		26·87

The burgh of Fort William has population barely sufficient to entitle inclusion in the "Small Town" Districts of the Registrar General.

The increase in the local rate during the second period is probably accounted for by a temporary influx of population due to the construction of railways in the district.

Infantile Mortality.—The subjoined table exhibits the infantile mortality and the general death-rates during the same periods as above; comparison being maintained with the mainland rural returns of the Registrar General for the cognate censuses.

	Death-Rates.		Infantile Mortality Rates.	
	Kilmallie.	Mainland Rural.	Kilmallie.	Mainland Rural.
1.	17·817	15·86	76·351	88·7
2.	17·786	16·25	93·338	95·3
3.	14·722	15·00	60·342	88·4
Mean . . .	16·775	15·70	76·677	90·8

While the local death-rate for all ages is thus slightly higher than the mean for the mainland rural districts, the infantile mortality shows a gratifying diminution in comparison.

As an extension of the foregoing set of statistics, it will be instructive to investigate the ratio of deaths at ages advancing in annual stages from birth to the age of five years. The actual number of infants and children whose deaths are recorded in the register from 1886 to the end of 1915 is 242. The age-mortality incidence is set forth as follows:—

Decennium.	Under 1 Year.	2 Years.	3 Years.	4 Years.	5 Years.	Total.
1886–1895 .	55	8	5	3	5	76
1896–1905 .	81	11	6	4	6	108
1906–1915 .	38	6	3	3	8	58
	174	25	14	10	19	242
Percentage .	71·89	10·33	5·78	4·13	7·85	

Of the children who died under one year, the accompanying analysis shows the month of age mortality :—

Deaths under One Year.

	Under 1 Month.	2 Months.	3 Months.	4 Months.	5 Months.	6 Months.	7 Months.	8 Months.	9 Months.	10 Months.	11 Months.	12 Months.	
	79	16	13	15	11	8	7	5	5	7	4	4	=174
Percentages .	45·5	9·29	7·47	8·62	6·32	4·59	40·2	2·88	2·88	4·02	2·29	2·29	=100%

Deaths under One Month, showing incidence in Days or Weeks.

1st Day.	2nd Day.	3rd Day.	4th Day.	5th Day.	6th Day.	7th Day.	2nd Week.	3rd Week.	4th Week.	Total.
25	10	5	2	2	2	5	10	10	8	79

51 deaths in 1st week, or 64·3 per cent.

Of the children who died during the first week of infancy, the causes of death are entered as follows :—

(1) Premature births 13
(2) Congenital weakness or asthenia 30
(3) Malpresentations at birth 2
(4) Asphyxia neonatorum 1
(5) Meningocele 2
(6) Convulsions 2
(7) Melæna neonatorum 1

Total, 51

To recapitulate the points ascertained by examination of the Kilmallie registers, it is found that, of 2209 children born alive, 242 did not survive to the age of five years, or 10·9 per cent. Of the 242 who died, 174 did not survive the first year of life, or 76·0 per cent. Of the 174 infantile deaths, 79 occurred during the first month, or 45·4 per cent. And of the 79 who died during the first month, 51 died during the first week, being 71·8 per cent. While of these 51, 25 died within 24 hours from birth ; or 60·7 per cent. And, further, the causes of death in the 51 (first week) children are to be seen, as regards 48 of them, directly associated with parturition.

Stillbirths, probable Estimate.—There being no official record of stillbirths, it is only permissible to give a probable estimate ; but the writer judges from recollection in stating that, in addition to every 100 children born living, at least 3 fœtuses (of 7 or more intra-uterine months) have been delivered ; being 66 for the period under consideration.

Causes of Death.—The following table has been compiled to show the registered causes of death occurring respectively under ages one and five years :—

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	Diseases.	Under 1 Year.	Under 5 Years.	Total.	Percentage.	
1	Congenital weakness *	84	3	87	35·95	
2	Bronchitis and pneumonia	22	10	32	13·22	
3	Croup and diphtheria	7	7	14	5·78	
4	Tuberculosis (general)	2	0	2	·82	Tubercle, 7·83%
5	Tubercular meningitis	5	5	10	4·12	
6	Tabes mesenterica	3	4	7	2·89	
7	Enteritis and diarrhœa	9	2	11	4·45	
8	Scarlet fever	1	2	3	1·23	
9	Scarlatinal nephritis	0	3	3	1·23	
10	Whooping-cough	12	8	20	8·24	
11	Measles	3	7	10	4·12	
12	Convulsions	9	5	14	5·78	
13	Heart disease	2	0	2	·82	
14	Tonsilitis (heart failure)	0	1	1	·41	
15	Epilepsy	1	0	1	·41	
16	Peritonitis	1	0	1	·41	
17	Intussusception	0	2	2	·82	
18	Malæna neonatorum	1	0	1	·41	
19	Syphilis congenital	2	0	2	·82	
20	Eczema	0	1	1	·41	
21	Accident (burns, etc.)	2	4	6	2·46	
22	Erysipelas	1	0	1	·41	
	Not medically certified	7	4	11	4·45	
	Totals	174	68	242	100	

* "Congenital weakness" includes all cases of premature births, obstructed births, marasmus, asthenia, etc.

Parental Occupations.—Further classification, with the view of determining the relative occupational proportions in regard to infant and child mortality (under age five) during the period under review, gives the subjoined results:—

	Nature of Occupation of Parent.	Designation.	Per-centage.	Total.
1	Connected with land	Farmers.	1·15	40·14
		Crofters.	13·69	
		Shepherds.	6·34	
		Farm-servants.	10·89	
		Carters.	1·61	
		Stablemen and grooms.	2·30	
		Gardeners.	·86	
		Gamekeepers, etc.	2·30	
2	Connected with seafare	Fishermen, sailors, boatbuilders.	3·74	3·74
3	Connected with railways	Surfacemen.	4·89	6·04
		Skilled employees.	1·15	
4	Connected with canal	Lock-keepers.	3·45	3·45
5	Ordinary industries	Tradesmen.	23·3	23·3
6	Connected with manufacture and sale of spirits.	Maltmen, publicans, other employees.	3·74	3·74
7	Domestic service	(Illegitimate children.)	6·34	6·34
8	Shopkeeping	Salesmen, etc.	4·32	4·32
9	Official employment and private	Overseers, clerks, etc.	4·60	4·60
10	Itinerant class	Hawkers, tinkers, tramps.	4·03	4·03
			100	100

It is regretted that, owing to the impossibility of ascertaining the actual numbers of people engaged in the different avocations, no percentage ratio can be deduced apart from the facts as given.

The outstanding feature established in the course of these statistics is the comparative immunity from early child-mortality amongst the better-off social grades of the community.

The conclusions to be drawn are helpful in considering what general measures may be adumbrated for the relief of the less favoured classes.

18. *Deaths per Family.*—A survey of the deaths under five to seven years, differentiated into singular and multiple occurrences according to families (or parents) affected reveals that :—

In	148	families	1	(under 5 years)	death	occurred	
,,	30	,,	2	,,	deaths	,,	
,,	6	,,	3	,,	,,	,,	
,,	4	,,	4	,,	,,	,,	

That is to say, 188 families (or parents, in illegitimate cases) furnished a death roll of 242 within the five-year period.

Opportunity will be taken later to discuss some of the attendant circumstances in relation to certain of these cases.

19. *The Newborn Child.*—The newly-born infant, being duly swathed in garments after bathing, is entrusted to the care of a female in attendance and, after a short period, is applied to the nipples, if maternal suckling is decided upon. (This latter is as a rule discarded in the case of domestic servants who give birth to illegitimate offspring.)

20. *Retracted Nipples.*—Generally all goes well ; but there is a proportion of cases where the mammillæ are not prepared beforehand for suction. They are atrophied from pressure of corsets, retracted and difficult or incapable of being seized by the child. Then trouble begins. The mother's breasts become redundant with secretion, artificial methods of suction may have to be applied, and in the end the attempt to suckle the infant may have to be given up. Or indeed the retained milk may undergo a form of septic change, causing mastitis and abscess.

21. *Fissured Nipples.*—The same result more frequently happens with " cracked " nipples, the fissures arising from the friction of the infant's lips and gums. Septic infection follows, with most painful results to the mother and with deleterious consequences to the child.

Both cases are easily preventable. Mothers are either too ignorant or too careless to give the matter attention. The suffering of abscess formation and the permanent mammary damage make them rue the neglect.

22. *Breast-feeding.*—Breast-feeding is, fortunately, the all but universal method adopted by the mothers in this district. The following instances illustrate the usual " run " of custom :—

(1) Labourer's wife ; nine children, all breast-fed ; no deaths.

(2) Labourer's wife ; five children, all breast-fed ; no deaths. One son rather poorly developed but active, and married.

(3) Labourer's wife ; six children, of whom one died in infancy, all breast-fed, with exception of last owing to the mother being phthisical (died). This daughter (about sixteen) is now suffering from spinal tubercular abscess.

(4) Shepherd's wife; fourteen children, all breast-fed. All survived beyond puberty. Neurotic tendencies as shown by one daughter with talipes, one son with asthma, himself married and the father of an epileptic boy. The mother (above) also asthmatic.

(5) Shepherd's widow; three children, all breast-fed, and survive. Last-born begotten while father in his last illness; phthisis probably. The youngest son has developed tubercular cervical glands *since* puberty.

(6) Labourer's wife; nine children, all breast-fed; four died.

(7) Labourer's wife; six children—one stillborn, three miscarriages; four were breast-fed.

(8) Labourer's wife; ten children—one stillborn, three miscarriages, eight breast-fed, two reared on "bottle," one of latter died of tubercular meningitis (about eleven). This woman had difficult labours.

(9) Labourer's wife; nine pregnancies; three children died shortly after birth. Confinements mostly difficult; delicate woman. All breast-fed.

(10) Carter's wife; nine children—one died of measles and one of nephritis; others healthy; all breast-fed.

(11) Mashman's wife; nine children—three died in infancy; all breast-fed.

(12) Farm-servant's wife; nine children; three died; all breast-fed.

(13) Labourer's wife; five children—four breast-fed; one (the last) reared on bottle on account of mother being ill with cystitis. All surviving.

(14) Carter's wife; thirteen children; one (of twins) died in infancy from convulsions; all breast-fed except first, on account of mammary abscess.

(15) Labourer's wife; six children, all breast-fed; all surviving.

(16) Slater's wife; eight children—one stillborn premature, one died from scarlet fever, one from measles, one from hydrocephalus (about five); all breast-fed; three survive.

(17) Cartwright's wife; six children; one died in infancy from whooping-cough.

(18) Gamekeeper's widow; six children, all breast-fed; one died in infancy from whooping-cough, one died of pneumonia, one of meningitis; three survive, healthy.

(19) Carter's wife; seven children—six breast-fed; one on bottle, died from meningitis tuberculosis, about two years. Cretinoid aspect of some of the children; mother also slightly so. Father alcoholic. Poverty.

(20) Crofter's wife; five children; had mastitis; bottle-fed; all healthy.

(21) Crofter's wife; thirteen children; one died in infancy (teething), convulsions; all breast-fed; healthy.

The series might be extended; but as the writer made notes in an ordinary tour of observation without making special exceptions or preferences, it may be accepted that the results are fairly typical of what obtains.

23. *Bottle-feeding.*—Bottle-feeding is not in favour. Neither tradition nor profit to the mother approves its adoption. The method is retained for mothers whose lactational powers are defective or absent from constitutional causes, and for those whose mammæ have been functionally destroyed by abscess. While, as may abundantly be gathered from even so limited a collection of examples, breast-feeding does not confer immunity from disease, there can be no doubt it offers the best protection.

24. *Mixed Feeding.*—The transition from lactation to mixed feeding is too apt to be anticipated by giving infants a share of adult nourishment almost as soon as dentition commences. Some children seem to thrive remarkably well on farinaceous foods—such as oatmeal flour and cornflour—even before the seventh month; and instances have been met with in which the exhibition of condensed milk has suited infants better than breast-milk. These, however, are exceptions such as every physician encounters in the course of his experience.

Definite and obvious and urgent harm is often created by the too early administration of nitrogenous (flesh) and carbonaceous (potato) food.

Tea-drinking has already been referred to. It is an unmitigated evil, tending to constipation, sleeplessness, gastritis, and neurotic troubles.

Oatmeal porridge and gruel, eggs, and milky foods ought to be more uniformly and more drastically adhered to as the standard nourishment for children up to the age of five.

25. *Diseases causing Death.*—Reference to the table of diseases shows that second to congenital weakness, respiratory affections are the most frequent cause of death. This points to inadequate provision against cold, wet, and exposure. Clothing is palpably at fault. Respiratory deaths no doubt include several in which measles and whooping-cough were primary causes.

Tubercular diseases follow. Ventilation and sanitation, together with sound nourishment, are the preventatives for them.

Diphtheria and enteritis are also preventable. Epidemic diseases are capable of being controlled. So that in the main the congenital defects are of first importance, and it is not necessarily that their malign influence is confined to the first quinquennium of life.

On the contrary, it may fairly be assumed, having regard to their preponderance as fatal factors in the incipient stage of existence that they maintain this precedence in the after periods as well. Hence the call for vigilance in controlling matrimonial alliances, in supervising the expectant mother, in regulating parturition successfully, and in methodising the care of infants.

When such steps are adopted, it may be hoped and expected that extreme opprobriums in experience as are below referred to may not be recorded in future tabulations. They are chosen from among the multiple fatalities of the under-five-years' lists :—

(1) Woman, about 32; intelligent, thrifty, industrious; developed phthisis and, after an interval of several years from her previous confinement, became pregnant. Her lungs were completely involved. As pregnancy proceeded, the pulmonary progress seemed to be stayed. At the eighth month labour supervened. It advanced rapidly; there were few pains. The infant was born; the mother apprehended all wistfully. She interested herself in the child, in the offices of the nurse, and then collapsed, gazing intently while she "passed" on the infant newly-born that, in a few short hours, lay beside her on the bier.

(2) Woman, about 30; she was strong and healthy. Husband had been, years before, confined in an asylum on account of acute melancholia; otherwise strong. The first baby was born barely able to breathe. It had supernumerary fingers and toes. It could not suck. It died in a few days from congenital weakness and physical inanition. The second baby was born in the following year. It was a monstrosity, and died in a few hours. The third baby appeared during the next year. At birth it was apparently healthy, but in the course of a fortnight symptoms of cerebral irritation set in; convulsions brought the end. The fourth baby arrived after an interval of two years. It survives; but judging from physiognomy—if it does grow up—it will not develop into a sane specimen of the species.

(3) Woman, about 38. Healthy woman, collaterally tubercular family history. Husband strong, active, industrious; suggestion of albinoism; housing not good; several healthy children. Of the fatal events, first died of acute broncho-pneumonia, second was a stillborn child, third acute enteritis (intussusception ?) and convulsions, fourth intestinal strangulation (intussusception). This history on the surface seems a mysterious and cruel "freak" of nature.

(4) Pregnancies normal; healthy woman; husband alcoholic but industrious; housing conditions bad. One child died of broncho-pneumonia, one of diarrhœa, one developed intussusception—successfully operated,—showed signs of idiocy (why ?), succumbed to an attack of broncho-pneumonia. Defective housing probably the *lowering* cause.

(5) Wife healthy; husband alcoholic and "soft" mentally; four under-five-year deaths; mostly "convulsions." Bad housing conditions.

(6) Tinker's wife; healthy parents. Four under-five-year deaths; various causes; all attributable to neglect, exposure, and filthy housing.

(7) Woman healthy but affected with *psoriasis universalis*. Husband strong, robust, industrious; had fought in the South African War. All children born weakly and developed an ill-nourished, emaciated aspect (marasmus). One died from simple asthenia, a second died from tubercular meningitis. The housing here was execrable. Lately the family has moved into a crofter-dwelling, and the improvement in the physique and appearance of the surviving children is already most marked.

(8) Parents splendidly strong and healthy; comfortable circumstances. Overcrowding of the children in bedrooms. A most acute and virulent form of tuberculosis ravaged the family. In all six died, including a girl of 2½ years, who succumbed to cerebral meningitis; immediate cause probably infected milk. A cow, otherwise goodly, was observed to have a cough and was duly disposed of without the practitioner being informed. The housing habits doubtless aggravated the intensity of the virus. Fulminant cases like the above have been noted, but do not fall within the early-age period.

(9) Four deaths within the five-year period; all due to neglect, tuberculosis, and filthy housing habits. Finally the mother died from a tuberculo-rheumatoid-cardiac condition, and the family have removed from the district.

(10) Woman about 30; hawker's wife. Four deaths within the five-year period; all due to neglect, exposure, syphilis, or to all combined.

26. *Review and Recommendations: Housing.*—As foundation for any and all measures for improvement in the hygiene, domestic, and personal conditions of the people, the question of housing is paramount. And included in the term are, not alone structural arrangements and environmental regulations, but also intramural and individual cleanliness.

It is the merest truism and axiom in professional experience that disease and death increase in direct proportion to the density of housing, to the amount of cubic space allotted to each inhabitant per dwelling, and to the degree of cleanliness observed domestically and individually. In the case of a rural community such as has been considered in the foregoing pages, it is the two last considerations that most directly apply, although all three conditions are, as a rule, operative together, the one implying the other.

As has been pointed out in the introduction, changes for the better have been in progress in regard to rural housing. They will advance under the influence of legislation now in force, and more rapidly, it may be hoped, as the result of contemplated recommendations by the Royal Commission presently in session. But the need is pressing. Inspection as it exists is often perfunctory. The work to be effective requires to be more firmly impressed upon officials as being really the prime groundwork of all efforts for promoting sanitation.

In the country, the abundance of fresh air outside dwellings is a saving fact; but it is a defence that does not protect all the time, and the deterioration that goes on, more or less insensibly, from inhaling vitiated atmospheres within ill-ventilated and often overcrowded habitations finds expression in the heavy morbidity catalogues of women and children. That 76·6 per thousand infants born in a locality like Kilmallie should die before they have completed the first year of existence is a reproach. That of these nearly 50 per cent. should die within the first month of their existence is almost a scandal to our age and civilisation.

Defective housing conditions are mostly to blame. Mothers become devitalised, children pay the penalty. Other factors are doubtless not absent, only these others are often sequential. Given small, ventilated rooms: furniture collects, filth collects, cleansing becomes difficult, air space is encroached

upon, windows are kept closed, noxious organisms pervade the air. Chemical and septic agencies thus prepare the way for more active invasions.

Every house ought to be minutely inspected and "passed," written certificates to that effect being given. Periodical visits ought to be paid and changes advised according to altered circumstances, *e.g.* increase of numbers in family, etc.

Domestic and personal cleanliness ought to be noted and registered.

Drainage and refuse disposal ought to be severely scrutinised.

Byres and dung-heaps ought to be removed from the near neighbourhood of dwellings.

Although these remarks are familiar from repetition in official and unofficial advice, the very obviousness of their application seems to require more and more iteration. Practical enforcement of them calls for enlargement of the personnel detailed to supervise and advise. Thus :—

Inspecting Staff.—First, a housing inspector to report on structural adequacy and means of ventilation, drainage, etc.

Second, a health visitor to inspect frequently the state of domestic cleanliness, both as regards furniture, clothing, and food.

Their functions ought to be invested with compulsory and penal powers, if necessary. Legislatively, it is probable that such powers already exist, but in practice they ought to be made more apparent, so as to take effect in conditions which hitherto have been looked upon as fairly common and ordinary; although in the opinion of trained observers these conditions are detrimental to healthy living.

Exercise of pressure in this regard might be expected soon to create a "conscience" in the standard of domestic sanitation.

The observance of cleanliness involves practically no expense, either to the persons concerned or to the public.

Third, it ought to be impressed on Public Health Authorities and officials that attention to considerations such as above set forth must be regarded as fundamental to their duties.

27. *Maternity Welfare: the Expectant Mother.*—In communities where factory work is a circumstance involving the participation of pregnant women therein, regulations are in force to compel their abstention both before and after parturition.

It is a beneficial provision introduced to remedy a known evil. The same evil exists, varying in degree, in all sections of the industrial or so-called poorer classes.

Abstention from Active Work.—Women with child, as has been seen, habitually engage in full domestic duty until labour arrives. The boon would be immense could some general instruction be devised that would tend to relieve pregnant women everywhere from manual work for a month before confinement and for a month after.

Notification of Pregnancy.—To that end, notification of being in a pregnant condition would be an advantage, if not a necessity. Under common law concealment of pregnancy is treated as a misdemeanour—that is, a pregnant woman is at present required to communicate her state of pregnancy to *some* body, else she may render herself liable to penalty.

There is no degradation—or ought not to be—in declaring the fact. And

if the imparting to *any* person, however casual, is required, what reasonable objection can there be in notifying to the body concerned with resultant issues, as affecting the public health and welfare ? There can be none.

In order, indeed, to contrive a *whole* and satisfactory scheme for the protection of mothers, it would almost seem logical that notification to the Public Health Authorities should be obligatory.

The procedure adopted under the Notification of Births Act would be sufficient. Every woman arriving at the seventh month of pregnancy (or before, if she desires) ought to be required to intimate either directly, or through her nurse or doctor, to the Local Authority for Public Health. The Local Authority on receiving the notification would then satisfy themselves as to whether the measures adopted for attendance at the expected confinement were such as in their opinion afforded guarantees for the proper supervision of the event and for the welfare of the child after.

If deemed insufficient, the Local Authority would exercise the right to advise or offer adequate provision.

Supervision of Pregnant Women.—Enough, probably, has been related in the maternity narratives submitted to demonstrate the special need in rural districts for regularised and methodical control of pregnant and parturient women.

Access of Doctor to Parturient Patients.—Several points demand to be emphasised. Let it be conceded that the interests of the medical attendant and the parturient woman are sympathetic. It is not to the advantage of the doctor that he should be required to overcome considerable, it may be enormous, physical obstacles in reaching his patient. It is not to the advantage of his patient that she should be so far removed from her doctor that, in emergency, his services might not be available.

Further, it is contrary to the interests of the general public that a medical officer should compulsorily be detained from attending to the claims of his general clientèle while giving attendance to one patient in a more or less distant or inaccessible locality for periods varying from hours to a couple of days.

Any system that would encourage this custom is to be deprecated. Formerly, the disciplinary restraint of compensatory fees acted in some degree as regulatory. It is a question whether the maternity benefit of the Insurance Act and the specified uniform fee of the Highlands and Islands Medical Service Board do not tend to perpetuate an objectionable custom.

Suggested Regulation.—It seems to the writer that the authorities responsible might be induced to reconsider the conditions under which they grant the maternity benefit and the modified maternity fees. His proposal would be (and if regulation by the Local Authority were adopted, the proposal in affected cases would be subject to their sanction)—

> That every expectant mother should arrange to come within a reasonably accessible distance from the doctor for purposes of confinement—such distances to be determined by the Local Authority. In default of compliance, the mother to forfeit the monetary benefits conferred under the Insurance Act and Highlands and Islands Medical Service regulations.

Maternity Nursing.—Maternity nursing is viewed by the writer as the solution of almost all difficulty.

Hitherto the vogue has been to summon nurse and doctor at the same time—that is, on the onset of labour. The consequence is that, in normal cases, the presence of the doctor is superfluous.

Under a regulated scheme, the nurse ought to visit her patient beforehand, ascertain all relative circumstances and inform the doctor engaged. If a primipara, the patient ought to be advised to come within access of the doctor, and similarly in multiparous cases where the previous history or actual or threatened complications indicate precaution.

Every nurse undertaking attendance ought to be qualified and prepared to conduct a normal labour without the presence of a doctor.

Expectant mothers should be instructed to call in the nurse and provide residence a few days before the date of confinement.

Except in exceptional cases, the attendance of a doctor should be requested only on the behest of the nurse.

Consultations between Doctors in Midwifery Cases.—If a parenthetical remark might be hazarded with regard to medical co-operation between local practitioners in midwifery work, it is that in difficult cases they ought not to hesitate to summon each other's assistance. The tendency too long has been for a doctor to exhaust all his energies before resorting to consultation. It is a mistake that calls for correction. The sooner it becomes realised by the profession and the public that no imputation attaches to consultative attendance, the better it will be for all parties. Recognition of this desirability—under regulation—would hasten and facilitate professional goodwill in the matter, and the elevation in the general mind of instrumental or operative midwifery to the rank of operative surgery would be an advantage.

The duty of Local Authorities would not end with mere notification and supervision or sanction of arrangements.

Institutional Treatment of Midwifery Cases.—It would still remain for them to be in a position to offer institutional treatment in cases referred to them for such by their responsible advisers. Either locally or at large centres, there need not be difficulty in arranging for this.

Type of Nurses Employed.—From the foregoing, it will be gathered that, in the opinion of the writer, the nurses employed for maternity work ought to be confined strictly to that sphere and not engage in general district service. At the same time, he considers that maternity training should be regarded as essential in the qualification of all district nurses in the Highlands, in consideration of the sparseness of population and paucity of nursing supply. The use of district nurses in midwifery cases ought to be restricted to emergencies.

28. *After-Care.*—The after-care of parturient mothers and infants ought to be supervised by the nurse for at least ten days after birth of the child. Any abnormality ought to be intimated to the doctor.

Subsequent attention would probably more properly fall within the purview of the district nurse as such.

Stages of Infancy.—Lactation derangement in mother and child may call for care.

The period of dentition in the infant, intestinal or gastric irregularities in mother or child, weaning, proper nourishment of the growing infant, constipation, or laxity—are all important occurrences that demand constant watching. In these there is much room for the skill of nurse and doctor; and the timely correction of them may save many lives.

Child-Rearing.—But in the way of preventing preventable mischiefs, the nurse's activities might be lessened by instruction of the mothers in child-rearing. The writer would propose that the health visitor already referred to, who herself preferably would be a qualified nurse, should, as part of her duties, give instruction to the mother in the management and rearing of the child; in the choice and cooking of food; in the material and amount of clothing.

Lessons to Mothers.—And, further, in suitable localities she might institute a system of lessons to assembled mothers. During the intervening years of the quinquennium dental troubles become almost inevitable; although in the experience of the writer these are not so liable to obtrude themselves as towards the end of the milk-teeth period (fifth to seventh year).

Cleanliness of Teeth, etc.—Attention to the cleanliness of the teeth ought, however, to be inculcated from the earliest period. Defects ought to be intimated to the doctor; and as the employment of an itinerant dentist is almost certain to follow the institution of a school medical service, cases occurring in children ought appropriately to be referred to that officer.

Phimosis, Tonsils, Nævi.—Cases requiring circumcision, excision of tonsils, treatment of nævi, etc., ought to be transferred to the nearest hospital.

Maternity and Child Welfare Staff.—Without a complete maternity and child welfare staff such as indicated, the consummation so much to be desired will not have been attained. The outlook, therefore, is to the establishment of an increased nursing equipment; the nurses to have separate and yet co-ordinated functions in the scheme.

Medical Officer of Health.—It is assumed by the writer that the Local Authority will act as supervising and controlling body, so that the Medical Officer of Health will have supreme advisory and administrative duties. On him will devolve the distribution of nurses, the co-operation of practitioners, to a certain extent the securing and establishment of a sufficient milk supply, the selection of cases for institutional treatment, and, in general, the inception and carrying out of all measures calculated to relieve the anxieties and dangers of pregnant women and to promote the welfare of their offspring.

In the course of the report it may have been noted that poverty, a concurrent element in the production of degeneration, has not been specially referred to. It has not been absent; but, taking the population as a whole, the industrial classes (including the agricultural section) have been and are above the poverty line.

They are a healthy people, their work is for the most part active and free, the natural environments are pre-eminently salubrious, their social habits, albeit a weakness for distilled waters, are not dissipated, *and yet*—there is this cry from women and children.

State regulation is, in the writer's opinion, the ultimate arbiter. Much

money will be required, and in this direction, as well as from the active interest of philanthropic agencies, the assistance of the latter will be thrice welcomed and thrice blest. It may be well also not to forget the sentiment contained in the undernoted lines :—

> "Fecunda culpæ sæcula nuptias
> Primum inquinavere et genus et domos :
> Hac fonte derivata clades
> In patriam populumque fluxit." [1]

[1] "Our times, prolific in sin, have first polluted marriage, and offspring, and houses ; from this fountain sprung the calamity which has flowed upon the country and the people" (Hor., *Odes*, iii. 6 : Lonsdale and Lee's translation).

CHAPTER XXXVII

SPECIAL STUDIES : II.—THE OUTER HEBRIDES

1. *The Problems of the Outer Hebrides.*—In the Outer Hebrides fishing and crofting are the principal industries. These affect most the lives of the mothers and children. At Castlebay, on the south side of Barra, you find an active fishing centre where, in the season, the Sound is busy with boats and the shore with the curing of herring. The industry, it is true, is not what it was some years ago ; because so many of the boats now find their employment with the other fleets among the northern islands and on the east coast. But there are still signs of a very active industry. When you pass from the immediate town round the harbour and look up the glen to the north-east, you find there, curiously dotted with newer buildings, many of the older houses created by the primitive agriculture. Some, a number now lessening, are true " black houses," perhaps more than a hundred years old, some of them even one hundred and fifty years old—all of them suggesting age and the house customs of centuries. If you pass round by the west of the island you find, on the blown sand towards the Atlantic, smart cottages, with built chimneys, where the stones in the walls are dressed, the thatch trimmed and tied against the western gales, and the immediate surroundings clear of refuse and manure. For one such house, the gathering of the stones took three years. But if you look round again to the south-west your eye travels over a mountain of bare gneiss rocks to discover here and there an ancient thatch roof hardly visible in its environment. In the north side of the island, at North Bay, you may find well-built houses that suggest the more recent conceptions of the mainland. Barra has its own mixture of problems—housing is one of them.

If you cross by boat from North Bay to Eriskay—that island of song and romance—you find there also the old and the new struggling for ascendancy. You find the windowless, smoky, black house keeping the form of the old, but leaving some of the defects behind. New houses are appearing, as we expect from this community of

active fisher-seamen. If, continuing northward, you cross into South Uist, you find there, too, communities of smallholders who live principally by the land, but also give some time to the kelp industry and to fishing. But in some parts of this island you come on large numbers of the older type of house, where, if a chimney is provided, it does not take all the smoke, but leaves much of it to fill the large living space for hours in the day and night, and that in places where the purpose of smoking the roof has ceased to be of any agricultural value. There is weaving in this island. Here and there you come on carders and a loom. Go further north, across the South Ford, and you find in the island of Benbecula a crofting community, where the crofts are somewhat larger and the new houses a rapidly increasing proportion of the whole. If you cross the North Ford into North Uist, you come upon a community once more differing in a hundred respects from the others. But there are many evidences of a vigorous crofting industry. In some parts of that island the conditions of life are little better than others ; but, on the whole, it gives more signs of general prosperity and comfort. In South Uist, Benbecula, and North Uist it is mainly the west side that is cultivated and populated. The east side is largely mountainous and unworkable.

To pass from North Uist to Harris, you must take again to the sea. In Harris you have a very poor community, where the crofts are very small and very difficult, where there are square miles of inhospitable rocks and equal miles of bogland. But the " Harris tweeds " were, and are, a reality. This section of the Long Island has intimate traditions of its own. There is a great crowd of people spread irregularly over a very small island. The conditions of life are supremely difficult. The industry that made a name in the world of commercial fashion still persists, but with a difference.

When you pass through the mountains, still northward, into Lewis you come on yet other types of community, where the crofter-fishermen predominate ; where the crofts are small and difficult, but not the only living ; where, however, agriculture has, by centuries of conscious and unconscious experiment, been developed into an intricate system of methods suited to the particular climate and soil.

2. *The Black Houses.*—It is here that one sees the real meaning of the " black house," which plays an immense part in the lives of the mothers and children of this island. The black house is neither

an accident nor a perversity; it is not a product of laziness nor of neglect. It is a product of long labour and sacrifice; it is part of the price that a people of immense ability and high character have to pay for their civilisation. The first impulse of the stranger is to have it cleared away. Of the thousands of black houses in Lewis, very few would be certified on the mainland as fit for habitation—the great majority would be immediately condemned; here and there whole townships would be swept away in the interest of public health. From some standpoints the black house cannot be defended. But it is right that we should understand at least a part of its meaning.

The black house seems to me a fundamental part of the only system of agriculture formerly found possible in this island of gneiss rock, clay, and peat moss. Perhaps the people cling to the black-house system after other methods have been found equally successful; but let it be set down that, although the incidental results to living are at least unsatisfactory, sometimes disastrous, the black house has its primary justification in the system of land culture.

Why does it persist in Lewis and not elsewhere? To answer this, you have only to go along the main road in the west of Lewis for the twenty-five miles from Barvas to Port of Ness at the season when the straw of the roofs is being taken off the houses and put on to the land. You will then understand why the peat smoke in the house without chimneys has been tolerated and encouraged day and night through all the winter. It is that the straw in the roof may be saturated with the distilled products of the peat, and thereby converted into a specific manure for the soil. What the precise fertilising or protective elements in the by-products are I cannot tell; but the artificially prepared straw of the house roof is an essential part in the keeping of the croft lands wholesome. It is to this purpose that the eyes and lungs both of children and adults are sacrificed. It is to this purpose that the peat fire is kept burning day and night. Incidentally, the fire keeps the air in circulation, the soil of the floor dry, and the inmates warm. Where the roof is so porous, where the walls may be saturated with rain, where the floors are of earth, where the site is a collecting pit for surface water or liquid manure—an ever-burning fire is the saviour of the household. It is alleged that, as the peat smoke is sterile and contains some pungent vapours, it has also some disinfecting power and is "good"

for the children. But medical opinion, old or new, does not accept the theory. It is held, on the contrary, that the perpetual irritation of the dust and the vapours enfeebles the bronchial membranes and predisposes to bronchitis, or pneumonia, or tuberculosis. The point needs investigation. The number of pneumonia cases seems high ; but we have no data for a reliable conclusion.

3. *Cattle-housing.*—There is another important point. In many hundreds, perhaps thousands, of the black houses the cows are housed practically with the people, entering often by the same door and breathing the same house atmosphere. This is technically known as "cattle-housing." In the other islands it has practically disappeared ; but in Lewis it remains. It is not as common as formerly, but it is still extremely common. What is the meaning of it ? It is, so I gather, also a part of the agricultural system. It is the means, a strictly scientific means, of preparing, in an island where cattle fodder is scarce, the year's manure for the maintenance of the land. Incidentally, as with the roof, the housing of the cattle may have some disastrous results ; but it has a perfectly intelligible purpose. As time goes on the crofters are coming to believe that equally good results may be had if the cattle are housed by themselves. But, inheriting as they do centuries of experience, they are naturally slow to believe, and even if they did believe, they have too little means to make their beliefs readily effective. Fodder is very scarce ; so the animals must be kept in a warm house to save expense. If they are so weak at the spring "lifting" that they need to be helped into the open, they gather force again on the moors, where the children live with them at the sheilings for all the summer.

4. *Special Form of the Black Houses.*—How, it may be asked, have those black houses come into existence ? Why has building taken this form in spite of the improvements of the last two centuries in house structure ? The main answer is simple : the houses are built by the people that occupy them. They are not always skilled builders ; but in each township, or large group of townships, there are some builders more skilled than others. The stones are collected from the moor. There are no trees, except in one or two patches on the east side ; the timber for the roofs, therefore, comes from beyond the island—sometimes from the wrecks, usually by ordinary

importation. Lime mortar is expensive; the walls must, therefore, be built without it. The roof must come off the house once a year; the walls must, therefore, be low. To remove the straw of the roof is a laborious process; the wall is, therefore, adapted to it—a ridge on which a man can easily stand and work goes round the house. The gales are severe; the house must therefore be adapted to resist them. In Tiree the walls are many feet thick; the edge of the roof is sunk in the inner edge of the thick wall; the ledge between the roof and the outside of the wall may be several feet broad. Mechanically, the wall thus diverts the wind from the roof. In Tiree this method of construction is easy, because there are square miles of sand, which is porous and dries swiftly. In Lewis this is difficult, because the thick walls have to be filled in with turf, which is spongy and retentive. In Tiree, too, the sand is white and everything looks clean; in Lewis, the peat is black and everything looks dirty. But at every point the house is adapted to its fundamental purposes. When those purposes are otherwise served, these points of structure will cease to have any survival value. They will continue, no doubt, by the inertia of custom, but they will gradually disappear. The problem, therefore, is not how to clean the house, but how to secure that the agricultural purposes the house serves are served by methods more consistent with a healthy, vigorous, and clean life.

There are many evidences of a desire for better houses. One turf house was lighted by two windows and lined throughout with wallpaper stretched on a frame. The baby had its cradle, stool, and low chair—all made by the father. The walls are about 5 feet thick; the roof is thatch; there is no chimney. To reach the dwelling-room it is necessary to pass through the byre, which, however, is used only for storing peat, fishing apparatus, etc. These little indications show a desire for a better type of house.

In another case, the woman preferred a cement floor to a wooden one, because cement is more easily kept clean. The husband had planned to build a byre and a barn, but had to desist when called up for service.

In another case, both husband and wife were anxious to get another house as soon as possible. The well was half a mile away in winter. They use rain-water for washing purposes. At that end of the township, it was alleged, typhoid fever was rarely absent. Doubtless the carrier case, as is known, is not infrequent in Lewis.

In the same locality a man built a wooden house. But the builder of this house really preferred the loose-stone houses to the houses built of concrete. The reasons are obvious: the loose-stone house, heated by a central peat fire, or even by the open peat hearth at the end under a chimney, gives a better diffusion of warmth than the somewhat limited heating accommodation of the ordinary concrete houses with cement floors and unlathed walls. But these are details. There is abundant room for experiment in the production of comfortable houses.

As a special point regarding housing, it may be said that, in several localities, the clustering of houses together is due to the crofters' efforts to waste as little land as possible for the house stance, the crofts being long, narrow, and already too limited for adequate sustenance. This, I believe, is the historical reason for many congested townships or house-groups. It is only another illustration of the many subtle factors that enter into "the balance of Nature" in those island communities.

Right or wrong, there the black houses stand, a product of a special civilisation, an active factor in the maintenance of families, a home of intelligence and high character. This much I wish to put on record about the black houses of Lewis. They are slowly diminishing; but they are still to be numbered by hundreds, if not by thousands. Ultimately they will all go; but only the ill-informed can look on them as purposeless, even to-day. When once it is known and believed that the cattle can be well kept in a separate house, and when a substitute is found for the peat-saturated roof, the black houses will soon recede, leaving the soul of their traditional good-fellowship to animate the new houses in new and better situations.

5. *Criticism.*—But, if so much has to be said in justification, much more must be said in condemnation. Let any reader look at the representative photographs, taken mostly from the island of Lewis, and say whether those habitations are fit places for the rearing of children. That beautiful children grow in them, the pictures themselves prove. Dr Mary Menzies is emphatic about them. But, surely, a race so productive of high quality in men and women is worthy of houses better than these, even if they be the product of centuries of tradition and experience. Look, for instance, at the black house where two children—perhaps over two years, but under five—are looking out from the gloom at the strangers passing. They prefer to be near the fire for most of the time. Nothing more strikes the stranger than the small number of children outside the houses. But note the steady flow of smoke coming through the door. To these children that is the normal condition of the house, day or night. The peat burns for ever to saturate the roof. If, as our special inquiry shows, it irritates the children's eyes and, perhaps, by excess of dry dust and irritating vapours, spoils the resistance of their lungs, it keeps the family in being by preparing the roof for the soil. But the discomfort alone, not to speak of the possible ultimate danger, is a heavy price to pay for an advantage that might be had otherwise. Look, again (illustrations, Hebrides (7), p. xv), where a young girl stands in the door of a house in Benbecula breathing the fresh air, but finding the smoke no difficulty. Wherever you go, it is the same. You enter a house whose only daylight comes by the open door, or, perhaps, by a small hole in the

roof, and you fail to see your way through the dense smoke, blinking and rubbing your eyes to counter the irritation. The inmates are used to it, but you have only to see the inflamed eyelids and the congested eyes to know that no one goes unscathed.

Or, again, look at this township (Hebrides (3), p. xiii), where the houses are spread out picturesquely on each side of the road. As black houses, these are among the best. The site is good. The houses are in couples. Probably the cows occupy one of the houses, the people the other. The ventilation, no doubt, is good; you can keep the air neither out of a black house nor in it, so porous are the roof and the walls, so potent is the constant fire.

But if these houses, well-spaced along the roadside, might pass, given dry sites, reasonable protection from the gales, and more light, what is to be said of the grossly congested townships? (Hebrides (1) and (2), p. xiii). Here is a community of some 400 or 500 people, who live in houses that stand back to back, side to side, end to end in such a way that, with a little ingenuity, a boy could walk along the tops of the walls from one end of the township to the other. Reflect that in this congestion cows, sheep, hens, and human beings all have their share. When typhus fever strikes a township like this—and it sometimes does—it sweeps the decks. Measles and whooping-cough take their occasional turns at killing the children; tuberculosis finds here an ideal nest. Here, as all over the island, box-beds roofed in are very common, and they too have a purpose; for if the house-roof does not keep out the rain, the bed, of course, itself needs a roof. Do not suppose that, even in a congested district like this, the houses are necessarily dirty. Dust there is in plenty, filthiness of the farm-yard kind and even worse is more than abundant, drainage is left to undirected gravitation; but, even in these conditions, you will find some of those houses—or, at least, the living parts of them—the perfection of cleanliness, comfort, and prettiness. This, of course, is not always so. Even the houses on the mainland are not all perfect. In the richest counties of Scotland I have seen scores of house-groups where the conditions of general sanitation are as bad as in Lewis. But healthy, these black houses with cattle in them, can rarely be, even at their best. When, however, they stand alone on a good site, free of cattle, their healthiness may surpass the healthiness of the so-called "white houses," which tend to repeat the worst vices of the worst-built houses of the mainland, and

frequently have neither the freedom of ventilation nor the warmth of the black houses. But, as I have already said, the great mass of these black houses are unhealthy: some because they are very badly placed; some because they are not or cannot be drained; some because they are run together in clotted masses, some—the majority—because they are used for the housing of cattle and sheep, and thus become covered depôts of farmyard manure; some—also the majority—are perpetually saturated with smoke and kept at a temperature too high for robust living. The fire, no doubt, counteracts a good deal of this unwholesomeness; but to keep those houses fit for permanent occupancy demands more energy than it is reasonable to expect from any housekeeper.

That these conclusions are not exaggerated may be seen from a casual glance at the photographs. These are not photographs of derelict houses, nor of ruinous buildings. With a single exception, they are photographs of inhabited houses or townships of houses. Look, for instance, at the cart standing on end against the gables of the houses in one township. The cart stands at the spot where the gable has, for the moment, been removed in order that the manure from the cow-byre may be more conveniently taken out and put on the land. The gable will be rebuilt shortly, but only when the manure has been disposed of. When it is remembered that the cows will return to this building in a month or two to resume their co-partnership with the other inmates, it is easier to understand that the winter conditions of living are certain to be less healthy than the summer conditions.

It is not, however, to be supposed that the whole island of Lewis has no other houses than these. On the contrary, there are hundreds of improved houses with chimneys, or newly-built "white" houses, and their number increases year by year. Here is the most striking fact of this whole island: The new houses are the direct result of the working-power of the people, who have contributed their recruits to industry and commerce in every country, and yearly send their thousands of men and women to the immediate industries on the east coast, or, as at present, to the fighting forces on sea and land. The white houses are part of the return. Labour is one of the exports; houses are one of the imports.

6. *Effect on Mothers and Children.*—So far as the mothers and

children are concerned, our principal problem reduces itself to this: Has the bad housing of these islands an evil effect on the health of the mothers and children? Direct evidence is very difficult to obtain, but we have made some endeavour to obtain it. Indirect evidence is difficult to formulate, because we have no present means of disentangling the effect of the varying factors of housing, food, and general habits of nurture. It is, therefore, only provisionally that I put forward a few figures from the Registrar General's Reports. The precise statement prepared by Dr Menzies of individual cases, or groups of cases, makes an illuminative beginning in the kind of investigation necessary to exhibit the exceptional conditions of life in this highly specialised civilisation.

These quantities, with much local detail, were obtained in the course of a special inquiry by Dr Mary Menzies and Miss Ireland, who visited selected townships in Lewis, in Harris, in North Uist, in Benbecula, and in South Uist. By special permission of the Admiralty, Miss Ireland took a number of photographs, of which several are here reproduced. The two investigators visited some 200 houses in the islands named. It is on this wide basis of direct and sympathetic study that the conclusions of their reports rest. It would not be possible to present all the details of this elaborate inquiry without exceeding due proportion, and, indeed, the problems of Lewis alone are too complex to be made intelligible in anything short of a series of investigations dealing with the agriculture, the fishing industry, and the general economics of the island. Many such investigations have been made, both by official commissions and by individuals. The subjoined special study is a small contribution to one section of the health problem.

I. Lewis.

(1) *Population, Infantile and other Death-Rates.*—In 1911 the population of Lewis district (excluding Stornoway) was 25,797; in 1901 it was 25,064. There was thus a slight increase in the ten years. In 1911 the Stornoway population was 3806; in 1901 it was 3885, showing a slight decrease. The population as calculated by the Registrar General for the year 1915 was, for the Lewis District, 24,800, and for the burgh of Stornoway, 3583—giving a total of 28,383. This population is very unequally distributed over Lewis. Some 18,000 persons (including Stornoway) live on the east side of the island; over 11,000 live in townships on the west side. The centre of the island is practically uninhabited. (See Population Map.) In the five years from 1911 to 1915 this population yielded the following numbers of births:—1911,

613 ; 1912, 603 ; 1913, 613 ; 1914, 555 ; 1915, 396. The great drop in the number of births for 1915 is an index of the large proportion of the male population now in the Services.

During the same five years the infant mortalities were as follows :— 69, 50, 47, 40, and 78 deaths of children under one per thousand births. Thus, in spite of sanitary conditions that, in some localities, are unspeakably bad, the infantile death-rate fell as low as 40 per thousand. Lower rates than these are to be found in the mainland rural areas ; but, with every qualification, this low rate may be regarded as a triumph of maternal capacity. The rate might be still lower if the conditions of life were better ; but, even as it stands, it compares well with many other counties better provided in other respects. It is itself a proof that, however adverse the circumstances, the child that is well nursed at its mother's breast has the best chance of living through its first year. To this there are many qualifications even in the island of Lewis ; but, to speak generally, the prevalence of breast-feeding is the chief factor in the relatively low infantile mortality. This is shown in greater detail by Dr Menzies in the figures given below. But that 40 of those children should die for every thousand born is not a flattering result even of breast-feeding. If the new efforts at infant preservation cannot do better than this in communities where Nature, if stern, is not irresponsive to human care, we shall know that the causes of death lie deeper than our science reaches, and we shall have to study the facts still more closely. But our hope is that as nurture grows more subtle, death will more and more recede.

The available facts as to the children from one to five are not so gratifying, but these facts are too limited to justify us in framing any general conclusion. During the five years from 1911 to 1915, the total deaths of children under one were 154 ; of children under five, the deaths were 135. This gives an average of 30 deaths under one to 27 deaths from one to five. When this ratio is compared with the facts for Edinburgh (see Chart, p. 267), one of two inferences may be made : either the deaths under one are exceptionally low, or the deaths from one to five are exceptionally high. They correspond more to the figures quoted for Glasgow (see Append.). The low infant mortality is, at least to a certain extent, balanced by the higher mortality from one to five. This point I should like to have investigated more closely, but the data readily available were not sufficiently precise. From extended observations, I am satisfied that, whether reflected in the death-rate or not, the conditions of life are not favourable to the health or vigour of the children from one to five. Possibly, food is an important factor ; possibly, the bad sanitation of the houses ; possibly, the persistent inhalation of peat distillates and peat dust. The whole conditions offer some very difficult problems in research. Unfortunately, owing to the occupation of chemists in war-work, I have not been able even to have a sample of the house atmosphere analysed. How far it is poisoned or improved by the addition of peat products, I cannot tell. But for what the figures are worth, the fact that almost equal numbers of children under one and children from one to five die, suggests that the conditions for the children over one are anything but satisfactory. This is a matter that should be more closely investigated.

The same general conclusion is confirmed by the figures for tuberculosis and respiratory diseases. For the same five years the average death-rate

of persons of all ages from "all tuberculosis" was 2·2 per thousand; for phthisis alone 1·9 per thousand—as against an all-Scotland rate (in 1914) of 1·62; a larger burghs rate of 1·88; a smaller burghs rate of 1·5; a county districts rate of 1·3. For those five years—and those years are not exceptional—Lewis exceeds in its all-tuberculosis death-rate the larger Scottish burghs. To find an equivalent to Lewis, we must go to Glasgow or Greenock or Dundee. The same conclusion was formed in 1906 by Dr Dittmar after a careful study of the figures. To-day's figures are much the same.

(2) *Pulmonary Tuberculosis.*—To take a few more detailed figures from the year 1914—the total recorded deaths from pulmonary phthisis in the county of Ross (including Lewis) was 131; of these, 76 were from the island of Lewis, 55 from the mainland. Now, the population of the island of Lewis (including Stornoway) was, at that date, 28,396. In this population, 76 phthisis deaths means a rate of 2·69 per thousand. At the same date the population of the mainland of Ross, including all the burghs, was 44,330. In this population, 55 deaths means a death-rate of 1·19 per thousand or, say, 1·2. It is, therefore, obvious that the phthisis death-rate in Lewis is more than double the phthisis death-rate on the mainland.

A death-rate of 2·6 or 2·7 for phthisis is very high. Thus, in the city of Edinburgh in 1914 the death-rate was only 1·2 per thousand; in the city of Dundee it was ·8 per thousand; in Glasgow it was 1·3 per thousand. Other comparisons could be given; but it is obvious that the incidence of pulmonary tuberculosis in Lewis is quite exceptionally high. If we take the total of deaths from phthisis, bronchitis, pneumonia, and other respiratory diseases we find that, in Lewis, the death-rate in 1914 was 4·6 per thousand, as against 2·9 per thousand on the mainland of Ross. The figures for other years vary slightly from these, but generally are not very different.

Within the same five years the death-rate from the principal epidemics ranges from ·4 to 2·4 per thousand. This indicates that when epidemic disease spreads at all, it spreads rapidly and fatally.

The houses are very ill-fitted for the management of any kind of infectious disease. In his evidence before the Dewar Committee, Dr Donald Murray, Medical Officer of Health for Lewis, agreed that, in his opinion, the great majority—very nearly all—of the houses (that is principally the black houses) are absolutely unfit for the treatment either of bone tuberculosis or of pulmonary tuberculosis. He did not consider that that was putting the case too strongly. What is true for tuberculosis is true, with differences, for other infectious diseases. It may be that part of the tuberculosis is due to the milk from the island cows. So far as I am aware, there has been no systematic investigation to test whether tuberculosis prevails among those cows or not. It is usually said that highland cattle are more insusceptible than other cattle. But from the amount both of bone and lung tuberculosis, one cannot help feeling that, if the researches made elsewhere are accepted as a guide, a considerable proportion at least of the bone and gland tuberculosis must come from infected milk. This constitutes in itself a very important local problem for investigation. But even if the milk be one of the sources, the peculiar housing certainly promotes the disease both in children and in adults.

(3) *School and Pre-School Nutrition.*—Visitors to the island are frequently

told by recently established inhabitants that the girls are forced to work, but the boys are allowed to go idle and to grow lazy. It is possible that the girls do more than their share ; and it is equally possible that many of the boys are idle and the usual proportion of them are lazy. But the criticism applies to almost every British community. In Lewis one would expect to find a greater difference between the duties required of girls and the duties required of boys, for here we have the clan system still retaining its potency, and the feature of the clan system was the special position given to the men as the defenders. The boy is the coming bread-winner and preserver of the croft. But the physiology and psychology of laziness have yet to be fully investigated. At least one factor is the food. This applies both to girls and to boys. As the special observations show, the children, when they go to school, seem to fall off badly, probably because their work increases while the food remains a pretty constant minimum. In the pre-school age the child is just as active or inactive as he chooses, and, by organic instinct, he adjusts the amount of his activity to the amount of food consumed. When at the school age he takes up duty regulated by a time-table, the adjustment between his food intake and his work output is necessarily disturbed. The disturbance is a proof that, in the pre-school age, he has been living on the physiological margin of subsistence. As in the poorhouses the working patients need more food than the non-working, so among the young children the school child needs more food than the pre-school child. One of the doctors said : " The children seem to flourish until they go to school, and then they appear to fall back for two or three years. After that, they begin to pick up again and to grow up into strong manhood and womanhood. Possibly, the alteration in their diet plays a part in that. While at school they have had a piece in the morning, a piece in the middle of the day, and no good meal until late afternoon." But let it be noted that the readjustment to new conditions is accomplished in the two or three years at school. The child becomes more vigorous by the duties imposed on him. He demands more sustenance, and he gets or finds it. The falling-off at school is precisely what we should expect on the assumption that the pre-school diet is a non-working diet on the margin of subsistence. The same phenomenon can be found among the poorer children in any large town. The underfed child adapts his assimilative power to the food available. There are differences in the islands : the open life, the unknown strains of race, the long quiet winters, freedom from the excitements of street noises and the variety of street activities. In fact, the children have more time to grow quietly even when the food supply is low. And, physiologically, the children of the remoter parts are almost " quietistic." In our photograph of four young children found sitting on the broken-down end of a house you may see four beautiful overgrown babies who have their own dream of life, but, as yet, take little interest in the activities of strangers. They make no noise. They do not shout. They are as unlike the town children of the same ages as their parents are unlike the town parents. But it is open to us to suppose that, if they have a reasonable chance of physiological improvement, they will ultimately out-distance the town competitor, both in growth and in staying power. This, it must be allowed, is theory. Food plays an enormous part. How much it accounts for among the special strains of race so distinguishable in

these islands is a problem that might well have the attention of experts in the relation of growth to nurture.

(4) *Rickets and Teeth.*—The problem of the Lewis children is peculiarly interesting at present. The amount of rickets among them is found to be extremely small. Good teeth, on the other hand, are said to be extremely common. These two points go to the credit of the island upbringing. Recently, Dr Eric Pritchard has suggested that, paradoxical as the theory looks, rickets is due to overfeeding. His point is that overfeeding is a balance between the intake of food and the output in muscular activity. Where the intake is balanced by the output of energy, rickets does not occur. From the photographs, it is seen that the island children are well grown, and, on the whole, plump. It is, however, certain that, at the very best, their food supply is not superfluous. Meat, one would suppose, is rare, both in the diet of the adult and of the child ; fish, less rare ; porridge and milk, common. Probably the milk supply is for long periods too limited ; but for a great period of the year there is always some milk available. Eggs, too, are practically everywhere available. These are the elements of ideal diets for children ; but they are probably nowhere in excess. It is, therefore, likely that, on the whole, the child-life fulfils the anti-rickety conditions suggested by Dr Pritchard. But this, too, is a matter for careful inductive study by an expert. A feature of Lewis is the small amount of vegetables grown or consumed. This also is an important feature of the diet, and probably affects the susceptibility of the children. The alleged laziness of the ex-school boys is a second phase in the transition from childhood to manhood. At this stage, food and irresponsible freedom count for much in the incubation period of the future worker.

(5) *Local Investigations.*—In the inquiry conducted by Dr Menzies and Miss Ireland an effort was made to get to close quarters with the people. This they were enabled to do by the extreme courtesy of the people themselves and the good offices of the local district nurses, the secretaries of the nursing associations, inspectors of poor, the registrars, the school masters, the school mistresses, and the medical men of the island. But for the courtesy thus extended to the investigators by officials and all classes of the population, the facts recorded below could not have been obtained. As this is not an administrative report, but a report on general conditions, all reference to individual persons and individual localities has been obliterated. We designate districts, townships, etc., simply by numbers. Only those familiar with the extreme difficulties attending an investigation of this kind can place a correct value even on the small number of facts recorded. These facts, it is hoped, may be of some use in illustrating the peculiar complications that confront the administrative bodies in all those highly specialised island communities. After some seventeen years' experience of administrative consideration of the near and Outer Hebrides and the island groups of Orkney and Shetland, I can only say that, in many departments of life, the administrative results in the Outer Hebrides are less satisfactory than in any other part of Scotland. Within the limited sphere of medical service (including nursing), the Highlands and Islands Board will shortly effect an enormous improvement. As a type of their work, I mention the nursing scheme now established in Lewis (see Chapter XXXII). The many associations created

and maintained by voluntary effort now become functional elements in a public scheme for the whole area. No improvement in medical service, however, can counteract the evil effects of the existing bad sanitation; but the bad sanitation cannot be eliminated in a day, and, therefore, the improved medical service has many accumulations of disease to work off and much preventive work to develop. Until the mothers and children are better housed, the heavy burden of tuberculosis cannot be expected to diminish rapidly. Food, of course, is as important as housing, possibly more important; but housing of this kind and the devitalisation it implies cannot be set aside merely because it is only one among many causes.

Local Investigations

(1) *Townships of an Eastern District*

First Township.—The population at the census of 1911:—

Males	223
Females	254
Total	477

Births in 1914:—

Number registered	12
Actual births	11
Illegitimate births	0

Deaths of children under five years of age in 1914 0

Births in 1915—

Registered	7
Illegitimate births	0

Deaths of children under five years of age:—

(1) Female child, aged 2 years; cause of death, certified, "follicular tonsilitis and pneumonia." The nurse states that the illness was prolonged.

(2) Male, aged 4 years and 11 months; cause of death not certified, but registered as "broncho-pneumonia." The nurse states that this child suffered from spinal disease and curvature, and also from frequent "asthmatic" attacks. The cause of death may presumably have been tuberculosis.

Second Township.—The population at the census of 1911:—

Males	236
Females	301
Total	537

Births in 1914—

Registered	18
Illegitimate births	0

Deaths of children under five years of age:—

(1) Female, aged 2 hours; cause of death, not certified, was congenital malformation. The nurse stated that there was a double hare-lip, a cleft palate, and a deficiency of the vertebræ.

(2) Female, aged 5 months; cause of death "double pneumonia," the result of a chill acquired when the roof of the house was removed. It occurred in a back-to-back black house, in a damp situation, with channels containing manure water around.

(3) Female, aged 17 months; "fell into a basin of boiling water."

(4) Female, aged 2 years; cause of death supposed to be "tuberculous glands." Actual cause probably diphtheria.

(5) Female, aged 3 years; cause of death, certified, "diphtheritic paralysis."

Summary—congenital malformation, pneumonia, accident, two cases of diphtheria.

SPECIAL STUDIES: THE OUTER HEBRIDES

Births in 1915—

Registered	14
Illegitimate births	0

The deaths of children under five years of age :—

(1) Male, aged 6 months; cause not certified, registered "convulsions." The mother married at the age of 21, aged 43 when this child was born, had given birth to 6 full-time living children—2 surviving and 4 dead, and 2 miscarriages. The nurse attended the birth of this child.

The child was breast-fed for one month, and afterwards was fed on cow's milk by the long-tubed bottle, the bottle being left in the cradle with the child.

The house is of the white type—walls of stone and lime, the roof of felt, the floors of concrete or wood. Accommodation—four rooms.

The nurse states that the mother is in the habit of overfeeding her infants and of giving them alcohol. This infant had been given a fish-meal on the day on which he died. The father is a fisherman-crofter.

(2) Female, aged 11 months; cause of death, certified, was acute broncho-pneumonia.

This was the seventh full-time child, 5 children are living.

The child was partly breast-fed and partly fed on cow's milk by the long-tubed bottle. The nurse states that the bottle was not kept clean, and that the child suffered from stomatitis.

The house is of the black type. The father a fisherman and squatter.

Third Township.—There was no inquiry made in this township, but the following facts are of interest :—

There were fifteen births in 1914; only one child died. This child was *illegitimate.* The mother died on the day on which the child was born, of "phthisis and pneumonia," certified; the child died six months later of "pneumonia," not certified.

There were four births in this township in 1915, only one survived. One child died of convulsions, aged 2 weeks; of one I have no record; one died, aged 3 months, of hydrocephalus, certified. This child was *illegitimate.*

Both these illegitimate children were children of the same father, and it is suggested that he suffered from syphilis.

Since there were no marked differences between conditions in 1914 and 1915, except in so far as the separation allowances replaced the irregular income by a regular assured income, and that the people were rather better off, I have grouped the results of the birth inquiries for the two years together.

Information was obtained—from the nurse or from the parents at the homes which were visited—concerning 18 of the 19 births registered in first township, and 31 of the 32 births registered in second township for the two years 1914–1915.

The Occupation of the Parents.—The fathers : In first township there were 5 fishermen, 4 crofter-fishermen, 3 in the Navy, 1 a corporal in the Army, and a minister, policeman, postman, and joiner, and merchant. Three of the fishermen and one of the crofter-fishermen had gone to the Navy.

In second township there were 11 fishermen, 15 crofter-fishermen, a merchant, a waster, and a labourer, and 2 seamen-crofters. Seven of the fishermen, 9 of the crofter-fishermen, and 1 seaman had gone to the Navy.

In first township, 10 of the 18 mothers had been fish-workers before marriage.

In second township, 21 of the 31 mothers had been fish-workers, and 1 had been a domestic servant before marriage.

In first township 10, and in second township 21, women were carrying on the work of the crofts.

We were able to trace only one case in which maternity benefit had been received.

In first township, to the 18 mothers, 86 living children had been born; 75 survived, and 11 were dead. There was one stillborn child and twelve miscarriages. Three women each had a history of one miscarriage, and three had had two, three, and four miscarriages respectively.

In second township, to the 31 mothers 148 living children had been born; 126 survived, and 22 were dead. There was one stillborn child and eleven miscarriages. Nine women had a history of one miscarriage each, and one woman had had two miscarriages.

With regard to the 11 dead children of these mothers, recorded in first township, the following information was obtained :—

Causes of Death.	Age at Death unknown.	Under 1 Year.	1–2.	2–3.	4–5.	5–6.
Cause of death unknown .	3	1	..	..	..	1
Nasal catarrh . . .	1	..	..	..	..	..
Whooping-cough . .	..	..	..	1	1	..
Whooping-cough and pneumonia	..	..	..	1	..	..
Measles and pneumonia .	..	..	..	..	..	1
Pneumonia, probably tuberculosis . . .	..	..	..	..	..	1
Total . . .	4	1	...	2	1	3

Causes given for miscarriages were—strain, anæmia, uterine misplacement, and in one case there was suspicion of syphilis.

In regard to the 22 deaths in second township the following information was obtained :—

Causes of Death.	Age unknown.	Under 1.	1–2.	2–3.	3–4.	4–5.	5–6.
Cause unknown	2	..	..	1	..	..	..
Pneumonia	..	1	..	6	..	..	..
Pneumonia and meningitis .	1	..	1	..	..	..	..
Measles	1	..	..	..	..	..	..
Meningitis	..	..	1	..	..	..	..
Convulsions	..	1	..	1	..	..	..
Congenital malformation . .	..	2	..	..	..	..	..
Accident	2	..	..	..	..	..	..
Wasting	..	2	..	..	..	..	..
Total	6	6	2	8	..	..	..

The six children who died of pneumonia at the age of two years were of one family. The people were said to be comfortably off, lived in a squatter's house of four apartments, built of stone and lime with concrete floor in the kitchen, and wooden floors in the rooms. The roof was of felt. The site was damp, and the windows were nailed down to prevent opening. The father suffered from asthma. The three youngest children of the family survive.

Causes given for the miscarriages were—anæmia, insufficient nourishment, and accident.

Miscarriages.—The women assist with the croft work, and when a fishing season commences early heavier work falls to the women, and more miscarriages occur. During a recent spring, the fishing season being early, the women were employed harrowing, and in four townships nine miscarriages, the duration of pregnancy being from 11 weeks to 28 weeks, occurred apparently from this cause. Each miscarriage occurred in a poor house where the mother was insufficiently nourished.

Ages of Marriage, Years married, and Average Number of Children.—In first township information was obtained in 12 cases—fathers : 8 were between twenty and thirty, and 4 were between thirty and forty at the time of marriage; mothers : 11 were between twenty and thirty, and 1 was between thirty and forty at the time of marriage.

The average number of years of married life was 9·25 ; the average number of surviving children was 3·9, and the average number of children who had died was 0·66 to each marriage.

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In second township information was accurately obtained in only seven cases—fathers: 6 were between twenty and twenty-five, and 1 was between twenty-five and thirty at the time of marriage; mothers: 6 were between twenty and twenty-five, and 1 was between twenty-five and thirty at the time of marriage.

The average number of years of married life was 10·6; the average number of surviving children was 4·4, and the average number of children who had died was 1·28 for each marriage.

In first township—total, 18 infants. 83·3 per cent. were entirely breast-fed; 16·7 per cent. were mixed bottle- and breast-fed.

Under one year old—breast-fed	2
Breast-fed for 12 months	11
„ „ 14 „	2
Breast and bottle—approved [1] bottle, special food, and cow's milk, for 12 months	3

There were no deaths of infants under one year old during 1914–1915; nor deaths of infants born in 1914–1915 during the first five months of 1916.

In second township—total, 31 infants; 30 fed. Breast-fed only, 50 per cent.; mixed breast and bottle, 30 per cent.; bottle only, 10 per cent.

Under 1 year old, breast-fed	3
„ „ „ bottle-fed	3
Special food and cow's milk in approved bottle	..
Breast-fed for 12 months	11
Breast- and bottle-fed for 12 months	9
Special food and cow's milk in approved bottle	9
Cow's milk given by long-tubed bottle	3
Died shortly after birth, of congenital malformation	1
Breast-fed, died at 6 months of pneumonia	1

Of the three children fed on the long-tubed bottle, two died, and the other was anæmic and showing signs of early rickets.

In many cases the bottle is given during the day-time, when the mother is out working at the croft, and the child is left at home; the feeding being for the most part from the breast.

There was little difference between the breast-fed and the breast- and bottle-fed infants; but the entirely breast-fed impressed one as being rather more resistive, and information tended to show that they were able to walk at an earlier age—one child being able to toddle at 8 months.

Reasons given for Mixed Feeding by those using Special Food and Approved Bottles.—Suppurating breast, pregnancy, ill-health, 2 cases; bottle given occasionally when the mother was temporarily away from home, 2 cases; the mother working on the croft, the bottle given in the day-time, 5 cases, the baby did not thrive on the breast milk.

Mothers using long-tubed bottle—no reason given, the mother believed herself pregnant again—the mother idle and careless.

There is a custom of giving a little barley water, usually through a tubeless bottle, in first and second townships. This has been introduced by the nurse to replace the usual custom of giving oatmeal water or a little thin porridge for prevention of constipation.

In another township a beautiful child was seen which had been reared on cow's milk sterilised but not diluted, given by the approved bottle. This child was walking at the age of 9 months. Home was the usual black house.

Attendance at the Births.—Of the 18 births in first township, 14 were attended by the district nurse; 1 by a doctor and the nurse; 3 by handy women.

Of the 31 births in second township, 8 were attended by the doctor and nurse; 11 were attended by the nurse alone; 10 were attended by handy women; 2 were attended by handy women in emergency, the nurse supervising the cases during the puerperium.

It is not possible for the nurse to attend all the births in the two townships, as they sometimes occur almost at the same time.

Third township is also within the nurse's district, although about three miles distant.

Expectant Mothers.—The mothers notify their condition about one month before the birth. Nurse always sees the mothers and examines the urine, and if not fully satisfied with the mother's condition recommends her to see a doctor.

[1] Bottle and special food both by one well-known firm, whose name, for obvious reasons, is omitted. Where the terms "approved" and "special" occur in regard to bottle and food, this firm's articles are meant.

The following information was obtained with regard to cases attended within a period of two years :—

Primary uterine inertia	10 cases.
Secondary „ „	1 case
Antepartum hæmorrhage	3 cases.
Postpartum	2 cases.
Contracted pelvis	1 case.
Abnormal head presentations	9 cases (L.O.A. and L.O.P.).
Ruptured perineum	1 case.
Fatal pneumonia in the puerperium—death within five days	1 case.

These cases are illustrative of the types of difficulty with which the nurse has to deal with regard to maternity cases.

The women of these two townships carry fish to a centre for sale in creels. Medical opinion is that the posture acquired tends to cause contraction of the pelvis, and that labour is therefore more difficult. The women of the fourth township, who do not carry creels of fish, have much easier labours.

As a result of the nurse's educative influence, infants are for the most part taken out-of-doors relatively early in first and second townships, and quite early if the birth takes place during the good weather.

When the nurse attends a birth, if there is no open window in the sleeping-room, she breaks a pane with a stone.

District Nurse.—The nurse has been nurse for this district for many years. She obtained one year's training in surgery work, holds her C.M.B. certificate; her maternity training was obtained either at the Glasgow Maternity Hospital or the Govan Nursing Home. She had training in district work in Govan. She keeps her books in order, and has an intelligent record of her maternity cases.

As she lives in first township, she is more in touch with and has more influence over the people there than those in second township—an influence shown in the small death-rate in children under one year. A handy woman still practises in second township.

The Housing in First and Second Townships.—There are three types.

(1) The black house consisting of byre, living-room, and sleeping-room. No chimney, or sometimes a chimney in the sleeping-room gable. (2) The badly constructed white house with clay floors. (3) The fairly built white house with stone and lime, or wooden walls, chimney, concrete or wooden floors.

Of the 49 houses in which the births took place, 29 were black houses, and in a few cases there were complete wooden partitions and a passage between the living-room and the byre, but in the majority of cases the only partition was formed by the back of the dresser in which the food was kept, or the back of a bed. Two houses were converted barns back-to-back with the parents' house, and consisted of one apartment. One black house was constructed of turf. Sixteen houses were of the white type; not more than 8 were well constructed. The white house when badly kept is much dirtier and more insanitary than the average black house is in the summer-time.

The Wells.—The water-supply is a serious difficulty. Most of the water is obtained from surface wells situated in the neighbourhood of cultivated land which has been manured with human, as well as cattle, excreta. These wells are, in some cases, even a mile distant from the houses. There are a few walled wells, insufficiently protected by parapet or covering. The people carry their own jugs or pails and dip these into the wells. The water from pools, collected after heavy rain, is sometimes used for cooking purposes.

There are a number of houses deserted after deaths from tuberculosis therein. Beds, bedding, trunks, clothes, dishes, and other furniture are left behind. Such houses were seen. Itinerant tinkers collect the clothes and dishes and retail these in another district. Cattle also eat the infected clothing. We ourselves saw cattle eating the clothing from the open end of a sack containing clothing collected by tinkers.

The desertion of the houses increases the poverty of the people.

Of boys from these townships, one is now a commander in the Navy, and another an officer in the Army.

Fourth Township.—The population amounts to 380.

Births in 1914—

Number registered	6
Illegitimate births	0

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Deaths of children under five years of age in 1914 :—

(1) Male, 11 months ; cause of death, certified, "measles and pneumonia." It was the fourth child, was breast-fed for seven weeks, and thereafter on diluted cow's milk given through the long-tubed bottle. Black house; father, fisherman. The three other children were breast-fed, and are healthy.

Births in 1915—

Registered	6
Illegitimate births	0

Deaths of children under five years of age in 1915 :—

(1) Female, 9 days ; cause of death "premature birth," not certified. Attendance at the birth, doctor and nurse. Was not breast-fed. The home a black house of better type; the father a crofter-fisherman. This was the seventh child, three only survive. Two died "delicate" at 6 weeks and 7 months ; one died at 13 months, of "pneumonia."

(2) Female, 1 year and 17 days ; cause of death "broncho-pneumonia," certified. The mother stated that the child was breast-fed, was perfectly healthy when brought to Lewis from Govan, at the age of 6 months, and that it was a victim to the insanitary housing of Lewis. The byre is separated from the house by a stone wall, but communicates with the living-room by a door ; it is at a higher level than the house, and the manure water percolates the living-room floor. This was evident even at the time of the visit.

Feeding of the Babies.—Total visited, 12. One died at the age of 9 days. One was breast-fed for about eight months ; 5 for twelve months, and 3 for a longer period. One was fed on breast and special food in an approved bottle for one year. One was artificially fed on prepared food [1] given by the approved bottle. This child did not walk until over 12 months of age, and was apparently healthy.

(2) *Townships of a Western District*

The population at the census of 1911 :—

Males	2274
Females	3267
Total	5541

The total births registered in 1914 were 117. January to June 1914, 42.
The total births registered in 1915 were 87. January to June 1915, 59.
January to June 1916, 33.

Causes of death in children under five years of age in 1914 :—

Causes of Death.	Ages at Death.						
	Days.		Weeks.	Years.			
	1.	10.	3.	1–2.	2–3.	3–4.	4–5.
General debility	1	..	..	1	..	..	..
Premature birth and congenital defect	..	1	..	..	..	..	..
Broncho-pneumonia	..	..	1	..	..	..	..
Measles and pneumonia	..	..	..	3	..	..	..
Acute lobar-pneumonia	..	..	..	1	..	..	..
Anæmia and bronchitis	..	..	..	..	..	..	1
Accidental drowning	..	..	..	..	..	1	..
Total	1	1	1	5	..	1	1

[1] A well-known commercial article ; where "prepared food" is used, this article is meant.

Causes of death in children under five years of age in the year 1915 :—

Causes of Death.	Days.			Weeks.		Months.	Years.			
	3.	5.	9.	3.	7.	6–12.	1–2.	2–3.	3–4.	4–5.
Convulsions—not certified	1	1	1	1	1	..	..	..	1	..
Convulsions—certified	..	..	..	..	..	..	..	..	..	..
Influenza and broncho-pneumonia	..	..	..	..	..	1	..	..	..	..
Idiocy and congenital paralysis	..	..	..	..	..	..	..	1	..	..
Septicæmia	..	..	..	..	..	..	..	..	..	1
Diphtheritic paralysis	..	..	..	..	..	..	..	..	..	1
Total	1	1	1	1	1	1	1	1	1	2

The deaths of young infants in 1914 and 1915 occurred—4 in fifth township; 1 in sixth township; 3 in seventh township—all in districts in which there was no trained nurse available.

Dr Murray stated that before nurses were appointed, convulsions in the infant at about the fifth day were expected as a matter of course, and that parents, in anticipation, obtained from the chemists various sedative drugs. In South Uist, where a nurse has only recently been appointed, we were informed that it was "the custom" to put a piece of burnt rag on the cut cord, to truss the baby up tightly in clothes, and neither to wash nor change the child until the fifth day.

The following are interesting facts from the district register of deaths :—

There were no deaths of women during the puerperium in the year 1914.

In the year 1915 : (1) A mother died of pulmonary tuberculosis, certified, one month after the birth of her child.

(2) A mother died of pulmonary tuberculosis, certified, seven days after the birth of her child. The child lives.

(3) A mother died of puerperal septicæmia, certified, five days after the birth of her child. The nurse who attended at the birth had been in attendance at a case of axillary abscess.

(4) A mother died of puerperal fever fifteen days after the birth of her child. No special explanation obtained.

(5) A mother died of puerperal pyæmia five days after the birth of her child. This case had been attended by a handy woman.

First Sub-district.—Population at the last census :—

Males	336
Females	441
Total	777

Births in 1914 :—

Registered	22
Illegitimate	0

Deaths in children under five years of age in 1914 :—

(1) Male, aged 1 year, died of "wasting." The child was breast-fed, but was in addition given a mixed diet early. The father is a fisherman-crofter. The house is of the cheap white type—walls of gravel and cement, floor of felt, two rooms, chimneys, windows which can be, but are not, opened. The mother, aged 44, has had 8 children, 4 of whom survive; one died, aged 9 days, and one aged 5 weeks, of "convulsions"; one, a congenital idiot, died, aged 2 years, of "wasting after measles." Her youngest child, aged 13 months, is anæmic and unable to stand.

Births in 1915—

Number registered	13
Illegitimate	0

There was one birth not registered within the year, and one stillbirth.

Deaths of children under five years of age :—

(1) Female, aged 1 year, of general debility, not certified.

(2) Male, aged 2 years, "congenital paralysis and idiocy," certified. Brother to the boy who died in 1914. The nurse attended at one stillbirth in 1915.

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The births of 1914 and 1915 have been grouped together in giving the results of the inquiry.

There were 36 living children born to 33 fathers, since one mother gave birth to twins, and two mothers each gave birth to two children within the two years.

The occupations of the fathers:—3 crofters, 5 fishermen, 12 crofter-fishermen, 3 seamen, 2 naval seamen, 8 other occupations. Sixteen in all are now in the Navy, one has been discharged from the Navy, one has been discharged from the Navy unfit, one is a soldier, one is a sailor in transport service, and three are in Government employ as labourers—a total of 22 on war service. The mothers:—23 were fish workers and 2 were domestic servants before marriage; 23 are at present carrying on the work of crofts. Four mothers, wives of seamen, had received maternity benefit.

To the 33 mothers, 134 living children had been born, and 126 of these survived. Two of the mothers had each had one miscarriage, in each case it was the first child, and one had given birth to a stillborn child.

The following information was obtained in regard to the eight children who had died:—

Causes of Death.	Age unknown.	Days.		Weeks.	Years.	
		5.	9.	5.	1–2.	2–3.
Wasting	1	..	..	..	..	..
Convulsions	..	..	1	1	..	..
Castor oil followed by convulsions	..	1	..	..	..	..
Congenital idiocy and wasting	..	..	..	..	..	1
Pneumonia	..	..	..	..	2	1
Total	1	1	1	1	2	2

The mother's age at the time of the birth of the last infant was known in 18 cases:—

6	mothers,	aged from	25	to	30,	had 15	living children,	an average of 2·5 each.
4	„	„	30	„	35	„ 10	„	„ 2·5 „
3	„	„	35	„	40	„ 14	„	„ 4·6 „
3	„	„	40	„	45	„ 13	„	„ 4·3 „
2	„	„	45	„	50	„ 13	„	„ 6·5 „

In 8 cases the mother's and father's ages at the time of marriage were known. In 6 cases the fathers were aged from twenty-three to twenty-five, and the mothers from nineteen to twenty-eight; the average number of years married was 8·5, and the average number of children per marriage was 4. In 2 cases the fathers were aged thirty-two and forty-two, the mothers thirty-two and thirty-six; each marriage had lasted four years; one mother had given birth to 2, and the other to 3 children.

When the parents marry young, the first two or three children come quickly; afterwards fertility seems to decrease.

Feeding of Infants.—Total, 36. Breast-fed only, 75 per cent.; mixed breast- and bottle-fed, 19·4 per cent.; mixed feeding to 4 months, followed by breast only, 2·7 per cent.; and breast to 3 months, followed by bottle only, 2·7 per cent.

Breast-fed, still under 1 year old	3
„ to the age of 8 months	1
„ „ „ 12 „	17
Breast-fed, to the ages of from 12 to 18 months	6
Breast- and bottle-fed, approved bottle, for 12 months	1
„ „ long-tubed bottle, to ages from 8 to 12 months	6
Breast-fed only for 3 months, followed by the long-tubed bottle to the age of 12 months	1
Breast- and bottle-fed for 4 months, then breast-fed only to the age of 12 months	1
Total	36

There were no deaths under one year of age in this sub-district in 1914–1915, nor had any of the children born in 1914–1915 died during the first six months of 1916.

Where there is mixed feeding, the bottle is given to the infant during the day-time, perhaps one or two feeds, whilst the mother is out at work. Given thus, the bottle-feeding, faulty in method, does not seem to have an evidently injurious influence on the child. A little porridge is usually given to the children by spoon, from the age of six months; in 5 cases it was given from the age of two months, and in 8 cases from the age of three months.

The expectant mothers do not make a custom of engaging the nurse beforehand, and do not come under supervision during the expectant period.

Attendance at the Births.—Recorded in 35 cases. The medical officer, assisted by the district nurse, attended at 4 births; the district nurse attended 20 cases; a local midwife attended 7 births; a relative, 3 births; and a neighbour, 1 birth.

As there were 73 births in 1914, and 40 births in 1915, in second Sub-district, it is obviously impossible for the nurse to attend every birth.

The Housing.—Of the 33 houses, 4 were black houses constructed of turf; 14 were black houses of stone or stone and cement; 4 were improved black houses having chimneys; 8 were white houses of a poor type; and 3 were white houses of a good type.

There was more cement used in the construction of the walls of the black houses in this district than in that of the first and second townships. In most of the sleeping-rooms there was a gable-end with a built-in chimney.

A type of white house met with here consisted of four walls of stone and cement covered with an almost flat roof of tarpaulin or of felt tarred.

The inside appearance of some of the turf and stone black houses was improved by wallpaper suspended from a cord fixed along the top of the wall. The women who, as fish-workers, had travelled furthest afield, especially those who had been to some of the English centres, seemed to have a desire for better housing.

The district nurse has been in this sub-district for about two years, and seemed to have found it difficult to obtain reforms. She has not succeeded in doing away with the long-tubed bottle.

One of the most striking points in the adult population of first township, second township, and this sub-district was their beautiful teeth, a testimony to the absence of rickets in their infancy.

The water-supply is not satisfactory, and in many cases the people have to carry their water distances of half and three-quarters of a mile.

Third and Fourth Sub-districts.—Inquiry was made into six births in third and fourth sub-districts. One infant, aged 15 months, that had been fed for three months on the breast and thereafter on condensed milk given in a long-tubed bottle, was pale, anæmic, flabby, and showing signs of rickets. The facts obtained otherwise corresponded with those obtained in first sub-district.

(3) *General Observations*

(Dr Mary Menzies)

The information obtained from inquiry into the births, the deaths, and physical condition in children under five years of age leads one to three primary conclusions: (1) infantile mortality cannot be ascribed to any one single cause, (2) the long-tubed bottle is a serious danger to child-life and health, and its sale should be made illegal, (3) cow's milk diluted, one part of cow's milk to two parts of water, is not a sufficiently nourishing diet for infants.

The finest infants seen were in Lewis, and especially in one eastern township and one western district. The housing is very unsatisfactory. With a few exceptions the houses are black houses of stone or turf usually crowded together, entrance being through the byres. A good circulation of air is maintained, otherwise the peat fire in the middle of the floor would die out. The outside air is pure. The inside atmosphere is warm, and contains pungent products of peat combustion. Manure, which begins to accumulate after the return of the cattle from the sheilings at the end of September, is only removed from the byre, once a year, at the end of the month of April.

Living under such conditions, usually never taken out until they can walk out, or only for a few minutes on a fine day in the summer-time, the babies nevertheless thrive, are large, finely formed, and well nourished. In first township those babies taken out early, under the nurse's directions, have a fine colour and more resistive appearance than those kept indoors. These infants are mainly breast-fed. Even when feeding is combined, except when the mother is delicate, the bottle is given only when the mother is out at work or away from home. Breast-feeding is evidently not essential, since one of the finest

of the children seen, who had walked at nine months, had been fed on sterilised but not diluted cow's milk given by the approved bottle under the nurse's directions.

The mothers are usually well prepared for the confinement, and have good clothes for the infants, who are kept relatively clean personally. Cradles were in use in many of the homes visited.

The children from one to five seemed also, so far as seen, well grown and well nourished. The condition of the children seen in the Infant Department at school was disappointing.

Pneumonia, one of the commoner causes of death in the children, is a frequent sequela of measles and whooping-cough. It is, however, surprising to what extent children recover.

The adult population remains up late at night, and lies in bed in the morning. The first meal is about midday. The younger children are prepared for school by the older children, and seldom receive a substantial meal, usually a piece of bread and butter and a little tea before school. They are given a "piece," which is pushed into the pocket without any covering, and is frequently eaten before school is reached. The children, therefore, receive one good meal a day, their supper meal of porridge.

The people live chiefly on oatmeal, fish, and eggs. Milk is not plentiful, except during the summer-time, when it is the diet of the younger children who are at the shielings.

There are no "fields," the ground is cultivated as "lazy beds," hand dug, manured, covered later with soot and thatch, and cereal crops are cut by sickle and scythe. It is a form of intensive cultivation, the crops produced are very thick and were more advanced for the time of year than those we saw in Aberdeenshire. Some of the squatters have cultivated pieces of moorland. There is no lack of fuel, since peat is abundant. The water is taken from surface wells, which are insufficiently protected, and are often in close proximity to manured land. Water collected in pools after rain is sometimes used for cooking food.

The people use their own utensils and dippers, a system which must tend to the spread of disease. Since that water has frequently to be carried three-quarters to one mile, it is almost surprising that the people are so cleanly.

Two doctors stated that ophthalmia neonatorum was very rare, and that stillbirths were not common. There is an occasional case of puerperal fever treated at home. Formerly, before the appointment of nurses, it was more common and was exceedingly malignant, death occurring within eight days.

Creel-carrying produces a certain degree of kyphosis, and results in difficult labours to women in certain townships.

Tuberculosis seems to be exceedingly common, and the habits of the people conduce to the spread of the disease. There is practically no attempt at open-air treatment until the patient is bed-ridden, when the bed is placed near a window if there is one available. On many days in summer, when patients well-clad could sit out for twelve hours in a sheltered corner, they walk or stand about outside until fatigued, then sit indoors. There are no seats provided out-of-doors.

There is no proper grasp of the danger of infection and how to combat it, although, after several members of a family have died, the house, clothing, furniture, bedding, and utensils, etc., are abandoned, and the poverty of the remaining members of the family is increased.

Itinerant tinkers collect utensils and clothing and sell these in other parts of the island. Cattle eat the infected clothing. We ourselves saw the cattle eating the contents of a sack of clothing which had been collected by tinkers.

In one black house, a young lad suffering from the disease, was seen sitting indoors, although the day was dry, sunny, and warm. His jar of sputum was accidently upset, the chickens, always present in the interior of these houses, made a dash for the sputum; they were kept away from it by myself until it had been covered with ashes. When I was leaving the house, the chickens were having a dust bath in the ash and sputum. These chickens go everywhere—into the beds, on to the tables and dressers, even on to plates on which there is food.

Under such conditions it is scarcely surprising that whole families are swept away by the disease. Much could be done for these cases by carefully detailed instructions and the provision of some form of shelter. During the summer-time a 7s. 6d. canvas chair, with a foot-rest, an oilskin apron, and an umbrella would enable most of the cases, such as were seen, to undergo open-air treatment. It is probable that cattle become infected.

(4) *Notes of a Nurse's Experience*

A nurse of ten years' experience among the townships gave us much interesting information.

(a) *Tetanus neonatorum.*—"At first there was a lot of navel trouble; they had

hernia, sore eyes, and the like. I sent for the doctor every time." There is now no tetanus; but one family had lost five children through tetanus. "There have been very few baby deaths since I came. One or two have died from pneumonia; the others have generally died through overfeeding."

(b) *Tube-Bottles.*—"I used to break the long-tubed bottles before their (the mothers') eyes, and tell them that they were the greatest cause of consumption." Nurse has induced the local merchant to stock approved bottles and dried milk. Babies are frequently both breast- and bottle-fed. "Now the mothers breast-feed more. I have helped the mothers to feed themselves and then feed the babies. The women go out to sell fish in the town, or to work on the crofts, or to cut peats, and the babies are left with or without bottles."

(c) *Dummy Teats.*—Dummy teats are scarcely ever used now, although they were much in vogue when nurse took up duty. It is only mothers that have been in the South that produce dummy teats. Nurse suggested that they are a source of adenoids, enlarged tonsils, and bad gums.

(d) *Deserted House.*—In a family the father and mother died of tuberculosis; the two younger children were removed. The house was deserted.

(e) *Diet.*—Nurse stated that broth is seldom made by the villagers, and that vegetables are practically never seen. The people have very few gardens, because the product is stolen by boys. She described the local methods of making fish soup: the fish is cleaned and put into boiling water; after some time the fish is served, and meal is added to the water. When this is again "brought to the boil" it is ready for serving. Some people break the fish into the soup.

Liver of the fish is much used here. The liver is chopped, the string taken out, and oatmeal and sometimes an onion is added, and all is packed tightly into the codhead, which is tied with string or tape and boiled for twenty minutes (can be cooked in fish pot). Each child is given a head that has been sprinkled with dried milk.

The usual meals are:—tea, bread, butter, and an egg before work; 11.30 a.m., fish, potatoes, and soup; 5 p.m., tea, bread, butter; evening, porridge and milk. The tea drunk is always stewed, and is much too strong. Raw meal brose is much used, but it is said to cause faintness, and to make the children coarse.

(f) *Peat Smoke.*—Nurse stated that the smoke in the houses is much heavier in the winter, and that the children's eyes smart very badly then. Many of the women say that they go nearly mad with the pain in their eyes.

(g) *Wind-Storms.*—The wind-storms are most severe in Lewis. One night nurse had to stand for three-quarters of an hour with her arms round a telegraph post. "It was I that had a terrible time."

(h) *The Open Window.*—In every house in which nurse has attended a confinement she knows that a window or, at least, part of one will open. We saw her pushing out a peat which had been placed at a broken window.

(i) *Women on the Land.*—She said that women frequently harrow the ground. The harrow is the size of a small kitchen-table, and the women attach it to themselves by means of a string round their chests. In the spring of 19— there were nine miscarriages, owing to the women harrowing because the men went early to the fishing. The women were mostly from poor homes. A doctor in another district had the same experience.

(5) *Notes of a School Teacher's Observations.*

(a) *Diet of School Children.*—The population of the district is about 2000 people; there are about 178 children on the school roll. The children come to school after a meal of tea and biscuit, and the parents complain that the children have no appetite in the morning. The teacher blames the close atmosphere in the house for this. They generally have a porridge-and-milk meal in the middle of the day. On wet days the children have to be allowed into school as soon as they arrive, and, unless sent home, have to sit in their wet clothes, as few of them have good coats and boots.

(b) *School Fire.*—The children have now to bring a peat for the schoolroom fires. On wet days, when a good fire is a necessity, the attendance is generally low, with the result that the fire cannot be kept up.

(c) *Care of Babies.*—A mother of a two-week-old baby said to her, "It is too young to be washed." The children are never taken out until they can walk out.

This is a scattered township with houses two miles from the road.

(d) *A School for Mothers.*—In the winter of 1910–1911 this teacher conducted an evening class for girls. Twenty-four girls attended, and the lectures were held twice a week for 2½ hours. Lectures and demonstrations were given on alternate weeks. The subjects taught included: cutting-out; making down; the working of a sewing machine;

the use of the contents of a housemaid's box; some sickroom cookery; how to take off a drawsheet; how to attend a sick person, etc.

The class was discontinued because of the financial condition of the Educational Authority, although the cost was only £5.

Three of the pupils are now mothers, and their children are healthier, cleaner, and better cared for than others. With the exception of these three, all the girls have gone to service.

(6) *Medical Institutions*

There are three medical institutions available for the island: *first*, the Stornoway general hospital; *second*, a small infectious diseases hospital; *third*, the sick wards of the Stornoway poorhouse.

The general hospital is a well-appointed, small cottage-hospital supported by endowments, legacies, and subscriptions. The hospital for infectious diseases belongs to the Local Authorities. The poorhouse is available for all the four parishes in the island. In the island itself there is no special provision for the chief disease, namely, tuberculosis. But, in normal times, the sanatorium at Maryburgh, near Dingwall, is available. The need for tuberculosis provision is specially emphasised in the Report of the Dewar Committee (Cd. 6559), pp. 27 and 28. The provision for tuberculosis in the island is receiving the special attention of the public authorities concerned. Up to date, there is practically no provision at all. This is due partly to the exceptional financial conditions of the island.

II. Harris

(1) *Special Investigation of Two Townships*

First Township (*Main Island*).—21 crofts.
Population probably about 100.
Births in 1914, 10; illegitimate, 0. Births in 1915, 6; illegitimate, 0.
No deaths in 1914 or 1915 of children under five years of age.

Second Township (*Small Island*).—The population at the census of 1911:—

Males	265
Females	324
Total	589

Births in 1914, 13; illegitimate, 0. Births in 1915, 17; illegitimate, 1.
Deaths under five years of age:—

1914. Male, aged 15 weeks, of "tabes mesenterica," certified. The mother is said to be tuberculous. She has given birth to 8 living children; 4 have died, 2 of "consumption" and 2 of "fits."

1915. Male, aged 10 hours, of "pleurisy," not certified. "Pleurisy" is here probably from a Gaelic word, meaning inflammation.

The crofts in first township are somewhat better and the rents rather higher than those of second township (island). Fifteen of the 21 crofts in first township are rented at over £2; 5 being over £3. Only 4 of the 40 crofts in second township (island) have rents of over £1, 10s., and only 1 is £3. Otherwise the social conditions are much the same in the two areas, and they have been grouped together for birth inquiry purposes. The births of the two years 1914–1915 are also grouped together.

Inquiry was made at 42 houses into 44 legitimate (including 1 child born three days before marriage) and 1 illegitimate births. One house could not be visited owing to the distance.

To 41 fathers, 44 children were born during 1914–1915. Of these fathers, 4 were crofters, 13 fishermen, 10 crofter-fishermen, 7 seamen, 2 weavers, 5 other occupations. Five, including weavers, are now in the Navy, and 9 are employed in other forms of Government service.

The 42 mothers had given birth to 197 living children, 163 surviving, and to 3 stillborn children.

Of the 24 which had died the following information was obtained :—

Causes of Death.	Age unknown.	At Birth.	Under 1 Month.	Over 1 Month and under 1 Year.	Years.				Over 5 Years.
					1–2.	2–3.	3–4.	4–5.	
Cause of death unknown . .	1	2	6	1	..	..	..	..	..
"Pleurisy" . .	..	..	3	3	..	..	..	..	..
"Fits" . . .	..	..	..	2	..	..	1	..	..
Whooping-cough .	..	..	..	1	..	..	..	..	..
"Consumption" .	..	..	..	..	..	..	..	..	2
Spina bifida . .	..	..	..	1	..	..	..	..	..
Burns . . .	..	..	..	..	..	..	..	1	..
Total . .	1	2	9	8	..	..	1	1	2

Note that pleurisy probably means "inflammation," and is not a technical word. The two children who died of "fits" were of the same family as the two who died of "consumption." The mother, not seen, is said to be tuberculous.

Six of the 42 mothers had had one miscarriage each; causes given were accident, fright, and the carrying of peats.

Information was obtained in 23 cases in regard to the ages of the parents at the time of their marriage.

In 6 cases the mothers and fathers were less than thirty years of age, the average for the fathers being twenty-six and for the mothers twenty-three; each marriage had lasted an average of 8·8 years; there was an average of 4 surviving and 0·33 dead children to each marriage.

In 16 cases the fathers had married between the ages of thirty and forty, the average being 34; the mothers between the ages of twenty and thirty, the average being 23·1. There was an average of 4 surviving and 0·8 dead children.

One woman, at the age of forty-four, married a man aged about sixty. At the age of forty-seven she gave birth to her first child, which, long-tubed bottle-fed, died at the age of 9 months. Her second child, aged 17 months, is surviving.

Feeding of Infants :—

Less than 1 year old, breast-fed	8
Breast-fed for 11 months	1
„ „ 12 „	11
„ from 12 to 18 months	9
„ „ 2½ years	1
Breast- and short bottle-fed	1
„ long-tubed bottle-fed	5
Fed by short bottle	1
Fed by long bottle	7
Total . . .	44

One died within ten hours from "pleurisy." One of the children born in 1914, breast- and bottle-fed, died, aged 1½ years, of whooping-cough.

One breast-fed baby was pale and anæmic, two bottle-fed babies were anæmic and delicate. The woman who nursed her baby 2½ years said that she could not obtain cow's milk, and the child had whooping-cough.

The age of walking was ascertained in 28 cases :—

Walking at the age of 9 months	2
„ ages from 9–12 months	6
„ „ 12–13 „	10
„ „ 13–14 „	6
„ „ 15–18 „	3
„ „ 18–24 „	1
Total . . .	28

Here, as in Lewis, a thin porridge or gruel is given by spoon early to the infants with intention to prevent constipation.

The ages at which porridge was given :—

	Under 2 months.	From 2–4 months.	At 6 months.	At 9 months.	At 1 year.
Number of infants . . .	6	9	7	3	4

Some mothers say that they do not give the infant anything but breast-milk until it is twelve months old.

Attendance at the birth :—

Attended by the doctor	1
Attended by the doctor and the nurse	5
Attended by the nurse	9
Attended by the handywoman or neighbour	30

Of 41 houses visited :—

White houses with concrete and wooden floors, slate or tarred felt roofs, stone and lime or wooden walls and sash windows	8
White houses, stone and lime walls, felt roofs and clay floors, and usually sash windows	10
Thatched cottages with clay floors	8
Black houses (no cattle housing), central or side fire with hole in the roof above	15

There were one or more cows owned by 24 (57 per cent.) of the 42 families visited in these two townships.

(2) *General Observations*

(Dr Mary Menzies)

A nurse resides in second township (island) and includes first township in her district. She attends births when required, and also surgical cases. There is no attempt to deal with the expectant period.

The population is composed of fishermen, fishermen-crofters, crofters, and weavers. For rents see the detailed report. Crofters and weavers tend to marry later than fishermen. The houses were more varied than in Lewis ; rather less than half of those visited were black houses, mostly of an improved type, with fires at the gable-ends and an outlet for the smoke, larger windows which could be opened ; one-fourth were white houses of a good type. There were, however, thatched cottages, one or two of which were exceptionally well kept, whilst others were wretched hovels, with a pretence of ceiling, and windows which would not open. There must be a vitiated atmosphere when the door is closed. There were a few white houses in a little better condition.

It was partly in the neglected houses and partly amongst the bottle-fed babies that anæmic and ill-nourished children were seen. The infants generally compared favourably with those in Lewis. One of the finest infants seen was in one of the most neglected houses. The mother, who resented our visit, was hurriedly trying to wash the child and put him into clean clothes. She had had nine of a family, and said : "God bless them, I got them all without a doctor." The infants are mainly breast-fed, and are not taken out until they can walk out. Milk is somewhat scarce, especially in the winter-time, as there are a number of families without a croft or a cow. One mother had said that she had fed her infant for two and a half years because she was unable to obtain milk.

Maternity benefit was paid in two cases.

Potatoes are planted in "lazy beds" and grow well. The people live chiefly on tea, scones, oatcakes, porridge, potatoes, and fish. We did not see meals being prepared in any of the houses visited.

The fishermen here and in Lewis frequently share a boat ; they may earn large sums of money in one catch, which may be worth several hundred pounds. Some of the money may be required to pay off the debt on the boat. They appear to be never entirely free from debt. The merchants supply nets, tackle, etc., on credit, and, in the intervals between seasons, debt is always accumulating.

Weavers are also handicapped by the truck system. They sell tweed, eggs, etc., to the merchants and are allowed value at wholesale rates, and the merchant supplies them with goods, for which he deducts value at retail rates. When wool is required for making tweeds, the merchant gives it at retail rates ; but when it is brought back to him as tweed, he allows value at wholesale rates. Wool for tweed is dyed and spun in almost every house. The tweed industry is almost at a standstill as fine wool cannot be obtained.

SCOTTISH MOTHERS AND CHILDREN

(3) *A Doctor's Views*

(Notes of Interview)

An island doctor stated that he considered the conditions of second township (small island) to be illustrative of the worst conditions in Harris. The population is about 600, and there should be about twelve crofts. The crofts are much subdivided, and there is not food sufficient to feed several cows. Therefore, there is only one cow for several families. There is a great deficiency of milk in this island, and generally in Harris. This want of milk is such a marked feature in another small island—which is occupied by a farmer and a lobster-fishing population—that it is not uncommon for adults there never to have seen milk. There is practically no cattle-housing in the second township (island).

It was stated that, recently, whooping-cough and measles had been running concurrently, but there had been remarkably few ill effects from them. Tuberculosis is very prevalent in the district. The doctor is of the opinion that peat smoke is very irritating, and that this probably accounted for the frequency of blood-spitting, when it was practically impossible to detect a definite lesion clinically. He said he had known in the west of Lewis a number of men who had been blood-spitters for years, who had entered the Navy and whom he had seen since hearty, robust men.

He agrees that the boys, although well grown, are very flabby.

With regard to the meals, the old-fashioned breakfast has disappeared, and the children are given usually tea and perhaps a hard biscuit before they go to school. The man does not rise until nearly 12 noon, and then the family has breakfast. Children coming in at midday get the remains of the cold breakfast. They have something about 4 p.m., and perhaps a good meal at night—practically a two-meal per day system. The children do not really get a good meal until the evening, when porridge is cooked.

The doctor thinks that the fact that the milk is kept in the living-room and distributed in small quantities to families in adjacent houses conduces to the spread of tuberculosis, since there might be in that particular living-room a tuberculous patient. Another fact is that, although the people will not go within hundreds of yards of a house containing a case of typhoid fever, they go quite regularly to Ceildih at tuberculosis houses. It may be a method of expressing sypmathy with the patient; but, however that may be, they will sit round in numbers in the heated atmosphere in close proximity to the patient. It is impossible to secure proper isolation of the patient, but the doctor finds that by warning the patient that the disease is infectious he can usually secure disinfection and burning of the sputum.

The commonest trouble that the doctor has to deal with is indigestion in the middle-aged people, chiefly women, caused by the fact that they drink a very strong decoction of tea, which is so strong that it is a powerful astringent.

The doctor said that he did not usually attend confinements, and that he refuses to attend or follow up a confinement if a handywoman is employed instead of a nurse. Many of these handywomen practise in the neighbourhood.

Formerly it was a custom to wrap up a newly-born baby after a very scanty wash, and to refrain from undressing them in any way until a sufficient time had elapsed for the cord to drop off. Then it was not uncommon for the child to die at the fifth day. Tetanus neonatorum is known as the "disease of the fifth day." At the present time, both in the west of Lewis and in Harris, puerperal fever is very rare.

The women do not occupy themselves out of doors, but they weave all day and late into the night. The children run about in the meantime, not in bed. The children are very anæmic at the end of the winter season. Lewis is better off than Harris in that it possesses the sheiling system whereby the children are obliged to live almost entirely on milk and egg food, and be in the fresh air more or less all day and night during the summer months.

The doctor does not think that the poverty is of such a pressing nature as that of the poor in the town slums. A woman will never see a neighbour starve. In certain villages in the west of Lewis it was customary every time a boat came in to set aside so many fish for widows and children.

In that parish of Lewis the birth-rate was high. In one year he had had 64 births, and in a period of five years only 5 deaths.

(4) *Medical Institutions.*

The two medical institutions available are (*a*) a very small hospital at Tarbert, and (*b*) the poorhouse at Lochmaddy, which is very little used.

SPECIAL STUDIES: THE OUTER HEBRIDES

III. North Uist.

(1) *Special Investigation of a Crofting, non-Fishing Island*

The population at the census of 1911 :—

Males	1772
Females	1905
Total	3677

The total number of births for 1914 was	57
„ „ „ 1915 „	71
The illegitimate births were	6
The total number of births registered from 1st January to 30th June 1914	38
„ „ „ „ „ 1915	30
„ „ „ „ „ 1916	26

The total number of deaths in the year 1914 was 47 ; in the year 1915, 50 ; in the first 6 months of 1916, 40.

Deaths of children under five years of age in 1914 :—

(1) Male, illegitimate, aged 1 hour ; registered cause of death, "premature birth."
(2) Male, illegitimate, aged 3 weeks ; cause of death, "debility," not certified.
(3) Female, aged 5 months ; cause of death, "spina-bifida," certified.
(4) Male, aged 1 year ; cause of death, "broncho-pneumonia," certified.

Deaths of children under five years of age in 1915 :—

(1) Male, aged 5 days ; registered cause of death, "hæmorrhage," no medical attendant.
(2) Female, aged 8 months ; cause of death, "broncho-pneumonia," certified.
(3) Female, aged 2 years ; cause of death, "convulsions," certified.

Deaths of children under five years of age in the period 1st January to 2nd July of the year 1916 :—

(1) Female, aged 2 months ; cause not registered.
(2) Female, aged 6 months ; cause of death, "spina-bifida," certified.
(3) Male, aged 11 months ; cause of death, "whooping-cough," certified.
(4) Male, aged 2 years ; cause of death, "whooping-cough," certified.
(5) Male, aged 3 years ; cause of death, "whooping-cough and meningitis," certified.

General inspection of the registers for 1914–1915 showed that, apart from the deaths due to pulmonary tuberculosis, the age of death was late..

The people of North Uist are crofters, and the "lazy bed" is not to be seen. The crofts rent from £3 to £7, and are from 5 to 20 acres arable, with good outrun.

It is quite usual for a crofter to own a pair of horses and 4 cows ; and horse-, cattle-, and sheep-rearing are the sources of income.

Visits were made to houses in Kirkibost, Claddach Kylis, Knockintorran, Balamore, Bayhead, Paible, and Carinish, which were supposed to be representative districts on the western side.

At the 23 houses visited, 17 of the fathers were crofters, 1 was a seaman-crofter, 1 a seaman, 1 a fisherman (now in the Army), 3 were of other occupations (1 now in the Army).

To the 23 mothers, 116 living children had been born ; 111 survived, and 5 were dead. There were 2 stillborn children, two women had a history of one miscarriage each, and one had had two miscarriages.

Three of the four deaths were ascribed to convulsions, two at the age of 15 months, and one at the age of 3 years ; one child died aged 3 weeks from the "cord," and one at 6 months—cause not ascertained.

In 18 cases the ages of the mothers and fathers at the time of marriage and the number of years married were obtained : 2 of the mothers were under twenty, and 15 between twenty and thirty years of age when married ; 6 of the men were between twenty and thirty, 9 were between thirty and forty, 3 were over forty years of age.

The average age of marriage for the women was 23·6, for the men 32·1 years ; the average duration of the marriage 11·1 years, and the average number of surviving children to each marriage 5·5.

The Infant Feeding:—

Breast-fed—not yet 1 year old	2
„ to 7 months	1
„ „ 11 „	1
„ „ 12 „	5
„ from 12 to 18 months	6
„ more than 18 „	1
„ to 6 months, and approved bottle and food afterwards	1
„ „ 8 „ long-tubed bottle and milk diluted	1
Breast- and bottle-fed, approved bottle	1
„ „ long-tubed bottle	2
Bottle-fed, approved food and bottle	1
„ long-tubed bottle, milk and water	1
Total	23

The Age of Walking:—

1 breast-fed infant walked at 9 months.
1 „ „ „ 11 „
8 „ infants „ 12 „
3 „ „ „ 13 „
1 bottle-fed infant „ 12 „
1 bottle-fed infant and 3 of the 5 infants part bottle- and part breast-fed walked at 13 to 14 months.
1 infant on combined breast and bottle could not walk at 14 months.

The breast-fed infants were able to walk earlier, aged from 9 to 13 months, than the part breast- and part bottle-fed infants.

All the infants except one were walking when less than 14 months old.

We learned here that the mothers were in the habit of drinking milk and gruel and taking porridge in order to keep a good supply of milk in the breasts for the baby.

Porridge.—18 of the 23 children were given porridge within six months, 8 were given porridge when less than six months old.

Attendance at the Birth.—The nurse attended 12 cases, and the other 11 were attended by a handywoman.

Housing.—There is an improvement in the type of housing compared with Lewis and Harris. There is no cattle-housing, numerous thatched byres being provided for the cattle.

Of the houses visited, 5 were improved black houses with chimneys; 12 were thatched cottages, the walls were of stone and cement, of moderate thickness, and most of the windows were of the sash type made to open, the floors were of clay or of wood; 3 were white houses with clay floors; 3 were white houses with wooden floors.

The Milk-Supply.—Attached to 18 of the 23 houses visited were crofts; all had two or more cows, one or more horses, some young animals and sheep. One croft had neither horse nor cow, and four houses had no ground.

The Water-Supply.—From surface wells, must be carried a considerable distance, one-quarter mile or more in dry weather.

(2) *Notes of a Doctor's Observations*

The doctor stated that danger lay, not only at the time of labour, but also after the birth. There have been only three deaths from septicæmia since he came to the district thirty years ago.

He stated that there is preventable death among children, especially illegitimate children, and that the Notification of Births Act is practically a dead letter in North Uist. Infantile complaints like summer diarrhœa are very rare. Children under five do not tend to take bronchial pneumonia or tuberculosis. There have been only two cases of death from bronchial pneumonia among children of that age to the doctor's knowledge. Whooping-cough has been so bad lately that there has been some bronchial pneumonia.

When asked about school children's health declining, he answered: "I am rather afraid of it. The school children are not so sonsy, so brosy, as at six years of age." The parents are not early risers, but the children get plenty to eat when they reach home after school, and are not much bothered with home lessons. "Comparing this parish with Skye, and the other parishes all round, I think the children are well nurtured." Their

diet consists of porridge, milk, bread, butter, eggs, fowls, mutton, sometimes beef, salt herring, and potatoes.

He would like the people to be allowed to make their own beer, and that they should drink that instead of so much tea. There are very many cases of indigestion.

The great drawback in this district is the bad water.

The children are now better dressed and plumper since the separation allowances were first paid. This specially applies to the cottars.

(3) *General Notes*

Rents vary from £3 to £10. There are two families on many of the crofts. A £3 croft, as a rule, consists of nine to ten acres of arable land and outrun in addition. On the whole, there is a pretty good outrun, as the farm is broken up to provide outrun. Most of the crofting population is on the western and south-western seaboard, where the land is described as "good." The people in North Uist rather look down upon fishing as an occupation, and their employment is entirely agricultural. They appear to make the rearing of cows, sheep, and horses, the chief source of income. They grow oats and a little hay. Oats are probably what is required for their own use, and there is a certain proportion of oats grown for the feeding of cattle.

There are very few black houses; the roofs are not stripped for the purpose of manuring the ground, and cattle-housing is practically extinct. The houses are generally made of rough stone and cement or clay, and the rafters and thatch are often the only covering, although, in some cases, there are ceilings. The clay floors are usually sanded for the purpose of cleanliness.

Porridge and eggs are given very early to babies.

IV. Benbecula

(1) *Crofting, non-Fishing Island*

The population at the census of 1911:—

Registration Districts.	Males.	Females.	Total.
Benbecula	697	687	1384
Howmore	830	809	1639
Boisdale . . .	1144	1216	2360

Benbecula.—Deaths of children under five years of age in 1914—there were none.

The total deaths were 19; the youngest to die was aged 7 years, cause of death tuberculous meningitis; the next in age was aged 57; the majority of deaths occurred at ages over 70 years.

Deaths of children under five years of age in 1915:—

(1) Less than 12 months old; cause of death, "pneumonia."
(2) Aged 17 months; cause of death, "tuberculous meningitis."

The total deaths in 1915 were 28. One woman died of puerperal fever, seven days after the birth of her child. Five persons died of phthisis, two were sisters. Two persons died of tuberculous meningitis.

Deaths in 1916. January to June—17.

(1) Aged 3 months; cause of death, "whooping-cough."
(2) Aged 8 months; cause of death, "whooping-cough."

Six persons died of pulmonary tuberculosis.

There are 300 crofters in Benbecula. An average rent is £6 for 16 acres arable, and each crofter has a share of 2000 acres of outrun. There are not many divided crofts.

The total number of births in 1914, was 21, 5 being illegitimate.
" " " 1915, " 16, 3 " "
The total number of births from January to June, 1914, was 14.
" " " " 1915, " 11.
" " " " 1916, " 5.

There is a district nurse, and the following notes of an interview with her are of practical interest.

(2) *Notes of a Nurse's Observations*

The nurse stated that the houses she visited generally have clay floors and box-beds.

A large proportion of the babies in her district are bottle-fed, because the older women advocate this. The bottles are principally of the long-tube type, but nurse is persuading the mothers to use the approved bottle. Breast-feeding goes on generally for 10 months, in some cases for a longer period. Nurse has seen no difficult labours, and no cases of contracted pelvis. Some of the mothers send notice beforehand that they wish nurse to attend at confinement.

As there has been a nurse in Benbecula for over twenty years, the mothers do not employ handywomen as a rule. In fact, the nurse is sent for for almost every little trouble. The doctor sees about half of nurse's cases. A large proportion of the cases are surgical. Nurse has had no cases of puerperal fever; and has seen no rickets so far. The mothers do not take anything special to keep up their milk.

There does not appear to be much consumption among young children; it is prevalent among the older people in Benbecula. Nurse is attending a case of a tubercular knee and a tubercular gland.

Nurse has been less than a year in the island. Out of the twelve babies she has attended at birth, six are being breast-fed. Five mothers that are using bottles have no particular reason for doing so; and one is tuberculous.

Nurse has been called to three miscarriages; two of 3 months and one of 7 months. One was caused by the lifting of a child; one occurred after the woman was kicked by a cow; and one was an abortion at 3 months.

There is not much liquor-drinking on the island.

Illegitimate children are well looked after.

No proper meal is given to the school children—generally potatoes and herring. More herring used in outlying parts.

(3) *Notes of a Teacher's Observations*

She was of the opinion that babies under one year are not neglected. They do not suffer, but after they reach the age of one year they are fed on anything that is going. It is then that they show signs of impaired health.

She stated that a number of young people that went South returned suffering from tuberculosis. They infected other members of the family, and in some cases whole families were swept away. She maintained that their special liability to such constitutional diseases was due to their defective feeding in the early years of life. Although the children grow big and sometimes reasonably fat they have no resistive power.

With regard to the medical inspection of schools, she held that that tended to improve the cleanliness of the children; but this, she thought, the teachers could themselves secure with the assistance of the medical inspector.

She had felt that the children needed, especially in winter, some hot drink to enable them to swallow their midday piece. For that reason, she herself supplied cocoa to her pupils. She had never asked contributions towards the expense from parents or other persons; the children made the cocoa and served it. Each child brought a cup and spoon. When the cookery-class pupils made soup, a sufficient quantity was made for each child that stayed for lunch. One day they were given lentil soup, but it was pronounced as not being half as good as cocoa, and one boy poured his portion on to one of her best plants. Some of the children tried to persuade their parents to get cocoa at home, but they told her that it did not taste so good as the school cocoa.

On wet days the children are allowed to take off boots and shoes until dry.

The boys in this school go to the sea for a daily bathe in summer; but the girls are not very fond of doing this.

The school population is slowly decreasing. She remarked that there appeared to be very few marriages taking place, and that younger women are marrying old men.

She finds many of the houses very clean; she showed us one very tiny cottage, beautifully whitewashed inside and out.

Benbecula impressed us as being a thriving island, with good land and good cattle.

V. South Uist

(1) *Special Investigation of a Crofting, Farming, partly Fishing Island*

The Howmore Registration District.—The population at the census of 1911:—

Males	830
Females	809
Total	1639

SPECIAL STUDIES: THE OUTER HEBRIDES

Deaths of children under five years of age :—
1914. (1) Aged 3 months ; cause of death, " supposed cold," not certified.
1915. None.
1916. January to June. (1) Aged 3 days ; cause of death, " general weakness," not certified.
(2) Aged 6 days ; cause of death, " weakness," not certified.
(3) Aged 3 years ; cause of death, " whooping-cough."

Due to pulmonary tuberculosis—there were two deaths in 1914 ; three in 1915.

The total number of births in 1914, was	. .	33, 4 being illegitimate
" " " 1915 "	. .	32, 3 " "
The total number of births from January to June, 1914	. . .	12
" " " " " 1915	. . .	17
" " " " " 1916	. . .	12

There was no inquiry made in Howmore district, but the new village of Geirinish was visited.

One new house (C.D.B.) was seen, and consisted of a room and kitchen on the ground floor, and a large partially partitioned loft lighted by skylights forming two good rooms above.

Boisdale Registration District of South Uist.—The population at the census of 1911 :—

Males	1144
Females	1216
Total . . .	2360

The total number of births in 1914 was	. . . . .	46
" " " 1915 "	. . . . .	43
The total number of births from January to June 1914	. . .	21
" " " " " 1915	. . .	24
" " " " " 1916	. . .	22

Deaths of children under five years of age in 1914 :—
(1) Male, aged 2 months ; cause of death, " gastric catarrh."
(2) Male, aged 8 months ; cause of death, " septicæmia."
(3) Female, aged 4 years ; cause of death, " diphtheria."
(4) Female, aged 5 years ; cause of death, " diphtheria."
There was one death, aged 28, from puerperal fever.
There were twelve deaths from " phthisis pulmonalis " in young persons and adults.

Deaths of children under five years of age in 1915 :—
(1) Male, aged 6 days ; cause of death, " debility from birth," certified.
(2) Female, aged 1 week ; cause of death, " supposed pleurisy," not certified.
(3) Male, aged 2 months ; cause of death, " debility from birth " and " gastric catarrh," certified.
(4) Male, aged 17 months ; cause of death, " broncho-pneumonia," certified.
(5) Male, aged 3 years ; cause of death, " broncho-pneumonia," certified.
(6) Male, aged 4 years ; cause of death, " diphtheria," certified.
There were six deaths from " phthisis pulmonalis " in young persons and adults

Deaths of children under five years of age from January to June, 1916 :—
(1) Male, aged 6 days ; cause of death, " debility from birth," no medical attendant.
(2) Female, aged 2 weeks ; cause of death, " debility from birth," no medical attendant.
(3) Male, aged 5 weeks ; cause of death, " debility from birth," no medical attendant.
(4) Male, aged 5 weeks ; cause of death, " supposed pleurisy," not certified.
(5) Female, aged 6 weeks ; cause of death, " debility from birth," certified.
(6) Female, aged 3 years ; cause of death, " diphtheria," certified.

Four of the five deaths in infants occurred in districts between the doctor's house and the southern point of the island, and one in Eriskay.

The total number of deaths in 1914 was	. . . . .	44
" " " 1915 "	. . . . .	29

In 1915 there were five deaths due to " phthisis pulmonalis."
Inquiries were made into births in four representative districts.

So many of the mothers were out working at peats that a number of houses called at were found to be closed, or in charge of some elderly person unable to understand English.

At the 20 houses visited, 12 of the fathers were crofters, 4 were labourers, joiners, etc., 1 was a sailor, and there were 3 mothers of illegitimate children residing with relatives.

To the 20 mothers, 85 living children had been born, 78 surviving; there were 2 stillborn children.

Causes and ages of death of the seven children who had died :—

Causes of Death.	Age unknown.	Days.	Weeks.	Months.		Years.
		7.	2.	6.	18.	2.
Cause unknown	..	..	..	1	..	..
Marasmus	1	..	..	..	..	..
"No breast milk"	..	..	1	..	..	..
"Supposed pleursy"	..	1	..	..	..	..
Pneumonia	..	..	..	..	1	..
Influenza and pleurisy	..	..	..	1	..	1
Total	1	1	1	2	1	1

The ages of marriage were obtained in 11 cases.

When married all the men were over thirty, and 5 of them were over forty years of age; 10 of the women were between twenty and thirty, and 1 was between thirty and forty years of age.

The average age of marriage was 36 for the men, 22·7 years for the women; average number of years married was 10·8, and the average number of surviving children for each marriage was 4·6; average number of dead children was 0·6.

The Feeding of Infants.—Total, 20 children.

Breast-fed to 1 year . . . . . 4 children
„ „ 15 months . . . . . 2 „

Age of Walking of the Six Breast-fed Children

10 months . . . . . 1 child
12 „ . . . . . 3 children
13 „ . . . . . 1 child
15 „ . . . . . 1 „

Breast-fed from 1 to 2 months, then bottle-fed . . . . 2 „
1 child, fairly satisfactory, walked at one year.
1 „ died at the age of 2 months ("pleurisy").

Breast-fed for 3 weeks, then bottle-fed on switched eggs and milk . . 1 „
Satisfactory child; walked at the age of 10 months.

Breast-fed from 6 to 7 months, then fed on diluted cow's milk . . 3 „
1 satisfactory child.
1 bronchitic anæmic infant.
1 rachitic, ill-nourished infant.

Breast and bottle-feeding . . . . . 1 „
Small, thin, infant.

Bottle-fed only, on diluted cow's milk, with or without cream . . 7 „
4 were able to walk at one year and were satisfactory.
1 died 7 days after birth.
1 was anæmic, slightly rachitic, and was beginning to walk at 18 months.
1 was anæmic and rachitic.

Porridge is given early in eleven cases, and at 12 months in one case.

The mothers do not seem to regard porridge so essential to the bottle-fed as to the breast-fed baby.

Attendance at the Birth.—The doctor attended 11 cases, a neighbour attended 4, and the local midwife attended 3 cases. We have no record of the attendance in 2 cases.

The Housing.—5 houses were of black type improved, in one the fire was in the centre of the floor; 10 houses were thatched cottages; 2 were cottages with felt roof; 2 were good white cottages, and 1 was an apartment in the poorhouse.

The floors were for the most part of clay, and were sanded in the better-kept houses. There did not seem to be any poverty.

Attached to 19 of the 20 houses were crofts, and there were one or more cows, some young animals, and sheep. To each of 16 of the crofts there were one or more horses. The breeding of cattle and horses is one of the main sources of income.

Water-Supply.—From surface wells, has to be carried a considerable distance in dry weather.

(2) *Notes of a Nurse's Observations*

The nurse said that very few mothers fed the baby on the breast, that they used the long-tube bottle, and that the babies suffered from gastric trouble and vomiting. Milk is plentiful in the summer-time, but scarce during the winter, and oatmeal and water is the principal food given by the bottle. The mothers rise about the eighth day after the birth of the child. (We found one young mother trying to be up on the fourth day.) To this and another mother we sent from Edinburgh approved feeding-bottles, as these are seldom stocked by local merchants. We talked to two or three of the shopkeepers in the district, and they all promised to try to procure approved bottles instead of those of an older-fashioned pattern.

The chief articles of diet are tea, barley bread, potatoes; porridge is the evening meal. Butter is scarce, also fish.

(3) *Medical Institutions*

There is no medical institution of any kind in Benbecula; but the small voluntary hospital at Daliburgh in South Uist is available. The poor are entitled to the use of the Lochmaddy poorhouse; and there is a group of cottages reserved for the poor. There is, too, a wood-built infectious diseases hospital, which has not been used more than once or twice since it was built about fifteen years ago.

The Feeding of Infants in the Districts of Lewis, Harris, and North and South Uist.

Total infants seen, 182; received some breast-feeding, 88·5 per cent.; breast-fed only, 64·8 per cent.; bottle-fed only, 11·5 per cent.; breast and bottle combined, breast mainly, 18·7 per cent.; breast discontinued, followed by bottle, breast mainly, 3·3 per cent.; breast discontinued, followed by bottle, bottle mainly, 1·6 per cent.

7. *Medical Service, including Nursing.*—The Outer Hebrides, like the other portions of the Highland area, benefit by the special grant of £42,000 per annum administered by the Highlands and Islands (Medical Service) Board. The schemes of that Board are named in a separate chapter.

8. *Conclusion.*—In this sketch I have tried to present one small section of the rich life of the Outer Hebrides; but no words of mine can match the subtleties of the reality. A hundred other phases of island life and nature tempt one to more words; but words are only symbols of an incommunicable experience. But perhaps the record is enough to show where some island needs are sorest and along what lines help can be given.

CHAPTER XXXVIII

SPECIAL STUDIES: III.—EAST COAST FISHING VILLAGES

By the census of 1911 over 40,000 persons were engaged in fishing: 34,390 men and 6562 women. From Mr Jones, the secretary of the Scottish Fishery Board, I learned that the fishing population is estimated at from 40,000 to 50,000. This population is scattered variously along all the coasts of the mainland and the islands. But the fishing villages of the east coast of Scotland are exceptionally accessible for investigation, and I have selected a few types. The studies include one or two fishing towns and some six or seven small villages. The great fish-curing stations are very important factors in the lives of the whole fishing population. For instance, the economic condition of the Outer Hebrides hangs largely on the east coast. A visit in the season to Stornoway, Kirkwall, Stronsay, Lerwick, and Baltasound is enough to suggest how difficult and unsettled the life of the fishing families may be and how much the prosperity in the coast fishing villages depends on seasonal accidents. But, in spite of the large number of seasonal workers that leave the villages for a period, the life in the villages themselves is never really broken, however much it may be affected by the prospect and retrospect of the seasonal occupation. This group of studies includes some villages where the fishing is almost entirely local; but, as a rule, both the men and sometimes the married and unmarried women go in large numbers every season to the large curing centres. In some cases the local fishing is dead, or represented only by a few line-fishers. The steam-drifter changed the net-fishing not by superseding the nets, but by multiplying the catch and increasing the speed of getting the fish on the market. The concentration of the curing thus made possible has resulted in the immense expansions of temporary huts and houses that spot the shores of Stronsay, Bressay, and other places in the northern island groups, and in the overcrowding so troublesome in Wick, Fraserburgh, Peterhead, and other large fish-curing stations. The populations drawn to those places may include whole families. A fisher-woman in Helmsdale told me that

every year she shuts up her house and takes her five children with her to Wick. This does not, perhaps, occur on any large scale; but it probably occurs in many of the villages near the curing centres.

It is very difficult to estimate how these seasonal migrations and occupations affect the life of the very young children. But in one or two of the studies the conditions are precisely described and a real beginning of an investigation has been made. The habits of the primitive occupations have been affected, but not fundamentally changed, by the coming of the marine engineer. That is one reason why these communities are of peculiar interest to the sociologist.

Of the fishing population proper, one remark constantly appears in the sketches—that the fisher people keep by themselves and mix only to a very small extent with the outside population. This feature is not confined to fishing communities; but it is certainly very marked among them. We have found multiple evidences of it in the Outer Hebrides, in the Orkneys and Shetlands, and in the east coast fishing villages. How far this exclusiveness is occupational, how far it is racial, I have no data for determining. Probably the fishing populations are now being more rapidly absorbed in the general population; but the racial types are still exceptionally well marked, and it seems to me that these communities with so strong a tradition offer favourable opportunities for testing the effects of intermarriage on personal health. There is room here for some intensive research. But the purpose of the present studies is to indicate primarily the immediate effects of the occupation, the housing, the habits, and the economic condition on the lives of the mothers and children. The facts given, though far from exhaustive, are striking. All the observers state that venereal diseases are rare in the villages, in many places practically unknown; but occasional cases are found after the seasonal migrations.

(1) A Fishing Village in Sutherlandshire

In this study Dr Bremner brings his extended experience as a Medical Officer of Schools and as a County Medical Officer of Health to the analysis of social conditions in a coast fishing village. This is one of the most prettily placed villages on the east coast. A healthier situation it would be difficult to find. The streets are generously spaced. Dr Bremner's story is a model of lucidity and compactness.

SCOTTISH MOTHERS AND CHILDREN

A Fishing Village in Sutherlandshire. By A. Bremner, Esq., M.B., Ch.B., D.P.H., *County Medical Officer of Health and School Medical Officer for Sutherland ; formerly School Medical Officer, Fife*

A fishing village on the east coast, where the inhabitants number about 600. Streets parallel, running south-east and north-west, houses facing south-west. Inhabitants for most part descendants of crofters evicted from the central parts of the county four or five generations ago and who squatted where the village now stands.

Sanitary Condition.—Sanitary condition not very satisfactory. Typical house consists of two rooms and closet, while some have two small attics in addition. The lines are always baited in the kitchen during the winter, and cleaning up afterwards is not very well attended to. Bedclothes and personal clothing are also not very clean, partly due to the fact that the mother is away from home so much during the day. The small closet, situated between the two larger rooms, is only ventilated from the kitchen, the window being small and fixed. The village has not been formed into a special scavenging or drainage area, and no water-closets exist. There is a gravitation water-supply, but the water is not of good quality and usually fails in summer. Overcrowding is common. Two families frequently occupy one house. The houses have been given over to the people themselves, a small ground rent for the site only being charged, hence there is some difficulty in getting improvements carried out.

Financial Conditions.—Prior to the war the inhabitants were not very well off, though, as a rule, thrifty and well-behaved. Since the beginning of 1915, however, the village has prospered exceedingly. It is not uncommon for one family to earn £10 in one week. The result has been a considerable improvement in the health, physical well-being, and clothing of the people.

Nursing.—A nurse (Sutherland Benefit Nursing Association) is stationed in the village. She is qualified only for maternity work. Doctor resides in ——. There is a small wood-and-iron nursing-home in the village—gift of a local lady. Nurse lives in Home, which contains two beds for lying-in patients. Though the Home was erected ten years ago, only two women have been confined there. The intention was that, where sanitary or other defects in the house militated against a satisfactory confinement, the patient could be removed to the Home to be confined and kept there till convalescent. The result has not justified the experiment, chiefly, in my opinion, because of an inherent desire amongst highland women to be confined in their own homes.

The nurse attends all confinements in the village, and, although not qualified, is consulted regarding minor ailments of children and injuries.

Nature of Inhabitants.—The inhabitants of this village as a class are peculiar and distinctive. They keep to themselves very much and seldom marry outside their own village ; somewhat primitive in many ways, intensely conservative, typically Celtic in temperament, suspicious and resentive of outside interference, but industrious and thrifty even to extreme.

Women.—The women lead a very hard life. A typical day of a fisherman's wife is as follows :—

Gets up early, about 3 or 4 a.m. Makes husband's breakfast. After

breakfast walks to pier, three-quarters of a mile away. She goes barelegged summer and winter, wearing only sand shoes on her feet. The pier is not very satisfactory, and the boats cannot be got at without wading. To keep the husband dry while at sea the wife carries him out to the boat on her back, wading in so doing well about the knees. The same procedure is gone through again when the boats come back, though one would think the ostensible reason does not then hold good. The scene at the pier on a cold winter morning is interesting, but somewhat pathetic to a stranger. Women wading through icy water, their petticoats fastened up round their waist, each with her man on her back, and exposed to the gaze of all. To their minds there is nothing indecent in this—it is only one instance of the somewhat primitive nature of the people. One wife who had married into this village from Portmahomack (in Ross-shire) refused to carry her husband in this way, and the result was that she not only quarrelled with her husband but became the scoff and scorn of all the other women.

After seeing her husband safely out to sea the wife comes home, prepares the children's breakfast, and gets them ready for school. The rest of her day is spent as follows :—(*a*) collecting firewood and carrying it home from the woods, one or two miles away ; (*b*) gathering bait, sand eels and lobworms, in the estuary of the river, and carrying same home, weight about a cwt., over three miles ; (*c*) meeting boats at the pier, carrying home fish, and helping to box and dispatch them by rail ; (*d*) baiting the lines for next morning's fishing, an operation taking upwards of two hours ; (*e*) hawking fish in the country districts.

In the morning when the mother is away the children are left alone in bed. During the day when the mother is away they are looked after, those under school age, by the oldest girl of the family or by a neighbouring girl between fourteen and fifteen years of age.

Food.—The usual dietary consists of tea and bread and jam or margarine for breakfast, a supper of the same, and dinner of some form of tinned meat and potatoes.

Maternity.—The fishwife of this village carries on her normal work till about ten days before confinement, and then gives up the more laborious part. She generally lies up for ten days afterwards. I can find no evidence that this heavy work, more especially carrying such loads on their backs, has any adverse influence on child-bearing, as one would be inclined to expect. The families are larger than the average for the county, or rather the women give birth to more children. Abnormal confinements are exceptional, and instrumental interference not common.

The nutrition of the newly-born infants is perhaps somewhat below normal.

Child Welfare.—Breast-feeding is exceptional. The child is usually kept on the breast till the mother leaves her bed, and then put on the bottle. Regular breast-feeding would be impossible with the mother away from home so much. Combined feeding is not common. Condensed milk is universal, both for children and adults. Fresh milk, especially in winter, can hardly be had.

Mortality.—During the four years 1912–1915, 50 children were born in the village, and during the same period 17 died under five years of age, *i.e.* 66 per cent. lived to reach five years of age. In the rest of the parish during

these four years 103 children were born, and of these only 3 died under five years of age, *i.e.* 97 per cent. lived to reach five years. The contrast is sufficiently startling. On making an analysis of the death returns, I find that 15 of these deaths were of male children—88 per cent. Further, all the deaths, with two exceptions, were of children under one year of age, the numbers at the various age groups being as follows :—

Under 1 week	1
1 to 4 weeks	3
1 to 2 months	2
2 ,, 3 ,,	3
3 ,, 4 ,,	1
6 ,, 9 ,,	4
10 ,, 12 ,,	1
1 ,, 2 years	1
3 years	1

The following were the causes of death :—

Premature birth	2
Marasmus, debility, etc.	3
Influenza (?)	2
Diseases of the lungs	4
Convulsions	2
Septicæmia	1
Laryngitis	1
Unknown	2

Marasmus, premature birth, and debility accounted for five of the deaths, and diseases of the lungs for four—more than half the total. Infants in this village are predisposed to death from these causes for the following reasons : (*a*) hard life led by the mothers ; (*b*) neglect while mother is away from home ; (*c*) unsuitable food ; (*d*) hereditary weakness ; and (*e*) insanitary and overcrowded houses.

A Parliamentary Committee showed that the amount of infantile mortality attributable to married women working in factories may be as much as 21 per cent. of the total. In this particular village it is not an underestimate to say that over 80 per cent. of infantile deaths are directly or indirectly the result of the life led by the mothers, if we take the average infantile mortality for the whole parish as normal.

The great excess of infant male deaths over female is very striking. Deaths of male infants are always in excess of deaths of females, roughly in the proportion of 1·2 to 1. In this village there is a male mortality of 7·5 to 1 of female, and this not for one year alone, but extending over a period of four years ; and this excess of male mortality is not accounted for by an excessive preponderance of male births over female during these years. The excess of male births over female was only in the proportion of 1·09 to 1—less than the average for the county as a whole. It must point to the fact that in this village male infants, for some as yet unexplained reason, are less resistive than female children to the local influences prejudicial to infant life.

I am informed both by the doctor and registrar that the death-rate of young children in this village is not nearly so great as it was twenty to twenty-five years ago. The village is now more prosperous, and housing conditions and sanitation have improved.

A fact of note with regard to the child-bearing women is that they seem to get old before their time, or at least old in appearance. In other districts and amongst women in other classes of life, one can see women with large families still retaining a fresh and more or less youthful appearance. In this village it seems to be the case that whenever a woman begins bearing children she at once begins also to get rapidly old. The strain of bearing children while doing exceptionally hard physical work, along with unsuitable food, I have no doubt, contributes to this result.

General Health of Village.—As regards the general health of the village, tuberculosis is prevalent to a considerable extent, but is confined to only a few families, the result of hereditary predisposition and direct infection. Cases of tuberculosis seem to run an exceptionally rapid course.

The death-rate from pneumonia is high, and the disease sometimes assumes epidemic form.

Other epidemic diseases are not at all common. Contrary to what one would expect from the insanitary condition of the houses generally, I have not seen in this village a case of enteric fever, diphtheria, or scarlet fever since I came to the county over five years ago.

Rest of County.—With regard to the other villages on the east coast, the women do not work so hard as the women of this village, and the conditions of child-life are more satisfactory. One great drawback over the whole county is the scarcity of milk in winter. Condensed milk is largely used for the feeding of children, but breast-feeding is more prevalent than in this village. During the summer, as a rule, fresh milk can be had in all parts of the county, but I have come across cases, more especially during the last two years, where a crofter with one cow allows the calf to suck its mother, the whole supply of milk going to the rearing of the calf while the children are deprived. A sucking calf thrives better than one otherwise fed and commands a better price.

Prior to 1916 the nursing service of the county consisted entirely of purely maternity nurses. These are now being gradually replaced by fully trained nurses, while the operation of the Notification of Births Act, Midwives Act, etc., is bound to have a good effect both on maternity and child welfare. There is one drawback which nurses find here—inseparable from a community of such a scattered nature—that is, the long time a nurse may have to wait in, for example, a remote shepherd's house before the confinement takes place. The nurse goes to the house on the expected date, but may have to wait there weeks before the child is born.

ADDENDUM: A LIFE-HISTORY

The fishing communities of the islands and the mainland furnish many records of extreme hardship and sacrifice. The Dewar Committee encountered many tales of maternal suffering.

In the Outer Hebrides, as in the Orkneys and Shetlands, and on the mainland, there was case upon case to stir the feelings and to show, in the light of dry fact, how terrible the lives of the mothers may be. Miscarriages following hard work on the land or in carrying peat or in delivering fish, premature labour and birth by the wayside, exhaustion

of the mothers, four or five dead children in single families—with these and such as these I could fill many pages. But the cases already selected from those furnished by our contributors are enough to stimulate the imagination. One case deserves, perhaps, more detail, and may be conveniently added here. It was furnished by an investigator of wide experience among fishing communities, and probably has many parallels among the enduring and heroic women of our coasts.

The first child was born prematurely—7 months—and died of inanition at the age of two weeks.

The second child was born 11 months after the first. It was born healthy, but puny, and died at two years of age of convulsions.

The third child was born 10½ months after the second. It was delicate from birth, and died at four years of age from abdominal tuberculosis.

The fourth child was born after an interval of 11½ months. It died of convulsions between two and three years of age.

The fifth child was born after an interval of about 11 months. Delicate; chronic middle ear disease.

The sixth child was born also within a year of the fifth. She died of general tuberculosis before her sixth year. She also suffered from paralysis of the right arm, probably due to injury at birth, which was somewhat difficult.

The seventh child healthy; but also suffered from paralysis of the left arm.

The eighth child was born delicate and died between one and two years of age of abdominal tuberculosis.

The ninth child was stillborn after a prolonged and very difficult labour.

Here we have an example of a woman who, in perfect health, married at eighteen and went through the experience of bringing nine children into the world, only two of whom survived, neither being first-class lives. None of the others survived beyond the sixth year.

Her children were all brought up on the bottle, and all were subject to gastric trouble.

The mother performed the usual work of a fishwife.

Twice married. Suffered from pelvic trouble. At age fifty, looked well over sixty.

(2) Fishing Villages in Ross-shire

Easter Ross is one of the most prosperous farming areas of Scotland. From his wide practice, Dr Eneas Mackenzie is in a position to give definite judgments on the problem of mothers and children in the rural districts and in the fishing villages. He has not aimed at an exhaustive investigation; but he speaks from an extended experience of the various communities of the area. He comments specially on the absence of fresh milk for the older children. This is a common complaint all over Scotland, even in many of the dairy counties. The milk-supply is becoming a more serious problem every day in town and county; but it has always been a serious problem in the fishing villages.

Three Fishing Villages in Ross. By Eneas K. Mackenzie, Esq., M.D., *Medical Officer for Parish of Logie-Easter*

The following remarks deal with conditions prevailing within the area of my own rural practice which embraces the parishes of Edderton, Tain, Fearn, Nigg, Logie-Easter, and parts of Kilmuir-Easter and Tarbat. The total population, excluding the royal burgh of Tain, of the area over which I practise would be about 5500. For purposes of report this might be conveniently divided into :—

SPECIAL STUDIES: EAST COAST FISHING VILLAGES

I. The fishing villages of Hilton, Balintore, and Shandwick, with a population of about 1200.

II. The rural area proper, with a population of about 4300.

I. The villages of Hilton, Balintore, and Shandwick are situated on the northern coast of the Moray Firth, and have a south-eastern exposure. The soil is sandy, and the climate on the whole dry.

Population.—Approximately 1200.

Birth-Rate.—During 1916, 24 births were notified. Of these, 12 were in Hilton, of which 6 were attended by a doctor with untrained assistance; 1 attended by a certified midwife alone; 5 attended by both doctor and certified midwife. Seven were in Balintore, of which 6 were attended by both doctor and certified midwife, and 1 by unqualified women alone. Five were in Shandwick, of which 3 were attended by certified midwife alone, and 2 by both doctor and certified midwife. Of these 24 cases, I attended 15, 12 of them accompanied by a certified midwife.

The certified midwife attending these villages is the district nurse for the parish of Fearn. Three doctors are available—two in Tain, eight miles away, and one in Portmahomack, eight miles away. All the doctors have cars, and there is a telephone service between Tain and Balintore.

There has only been one case of puerperal fever in my practice (and she recovered) during the last five years; that was in 1912, and it was a case of prolonged tardy labour in which there was interference by unqualified women before I arrived. During 1916 there was only one case at which there was neither doctor nor certified midwife. During the last six years there has been no case of death amongst mothers attributable directly or indirectly to childbirth. This is a great change from old-time practice, if all accounts are true.

Infantile Mortality.—During 1915 there were eight deaths amongst children of one year and under, namely, one in Hilton due to marasmus (age 2 months 12 days), two in Hilton due to measles (ages 1 year and 3 months 12 days), three in Hilton due to broncho-pneumonia (ages 1 year, 9 months 12 days, and 3 months 12 days), one in Hilton due to meningitis (age 7 months 12 days), one in Balintore, cause unknown. There were no deaths amongst children between the ages of one and five.

The villagers are mostly fishermen. The men for the most part do line fishing in the spring and winter, and go to the herring fishing during the summer and autumn. A few do salmon fishing, and a few are ploughmen. The young women go to the herring-gutting during the summer and autumn, and go to service (domestic) during spring and winter, or hawk round the country the line fish caught by the men.

The villagers are of cleanly habits, especially in recent years, and the sanitary condition of the villages is fair. Slops are for the most part thrown into the sea or buried in the sand. There is a total absence of water-closet accommodation, the villagers using the rocks or bents. The houses are mostly two-roomed, with a loft for nets and fishing-tackle. They are clean and comfortable, and one feels that the villagers are appreciating more and more the advantages of fresh air. The sites are healthy. There is some tendency to overcrowding, especially where the families are large, but on the whole the housing question is satisfactory.

Two outstanding needs are apparent—*milk and water.* Milk is almost impossible to get, and the want is often, in sickness, a very grave matter. Although the villages are surrounded by one of the richest agricultural areas in Scotland, the milk is used for calves, and little or none is available for the villagers. Babies not breast-fed, fortunately a minority, are for the most part brought up upon condensed milk. The want of fresh milk is, however, a sore want in the case of the older children.

The water is largely pump water, has to be carried some distance, and stored in pails in the houses, and is hopelessly insufficient for the needs of the people, especially in the summer.

It is extraordinary that the want of milk and water produces so little apparent evil on the ultimate development of the children.

The most common serious ailment amongst young children is broncho-pneumonia, especially if there is a visitation amongst the villagers of whooping-cough or measles. Tuberculosis amongst children under ten is very rare. I have never seen a case. Measles and whooping-cough come in epidemics, and are not often serious. Scarlet fever and diphtheria are very rare. Occasional cases of typhoid break out in Balintore, but very few since all open wells have been closed. It was very prevalent and very fatal before pump water was introduced. The villagers are, on the whole, comfortably off. Poverty is not seen. Except amongst the fish-hawking class of men alcoholism is not seen. It is very rare amongst women.

In conclusion, the general conditions affecting the health of mothers and young children have vastly improved in recent years. This is due to the improved general education of the people, the increased prosperity since taking part in the herring fishing, the advent of the qualified midwife, the extinction of the dirty " howdie," the improvement of the houses, the closure of the open wells, and, finally, the education of mothers by doctors and nurses in the importance of cleanliness in everything pertaining to childbirth and child upbringing.

There are three needs to be emphasised :—

1. Lectures to the mothers and young women upon the importance of everything that makes for health and cleanliness.
2. Milk.
3. Water.

II. The rural population, excluding the villages, of the part of Easter Ross over which I practise amounts to about 4300. The bulk of the people are of the farm-labouring class. Nigg and Edderton are the only two parishes in which the services of a certified midwife are not available. During the last year I attended 54 births, and had the services of a certified midwife in 26 of these. During 1916, 169 births were notified, at all but one of which there was present either a certified midwife or doctor or both. The death of a mother at or following childbirth is very rare. Puerperal fever is unknown, and the bulk of the deaths amongst young children are due to broncho-pneumonia or the epidemic diseases or their sequelæ. Tuberculosis in any form under ten years of age is practically unknown. Enlarged tonsils and adenoids and bad teeth seem to be increasing amongst young children. The houses are on the whole very satisfactory. There is little or no poverty, and the people are comfortably off, cleanly, and intelligent. There is just

a tendency amongst the young women to put their babies on the bottle, but in the majority of cases they will listen to argument, and I have rarely difficulty amongst any class in persuading the mother to nurse. The travelling van is the curse of the country, encouraging, as it does, the " book " and resulting debt, and the giving up of thrifty home-made foods for the more showy but less satisfactory and less nourishing manufactured foods of all sorts. It is quite common for the women to sell good meal and potatoes to buy tinned foods, jams, and cakes and biscuits. Although rare amongst children, pulmonary tuberculosis seems to be more common between the ages of ten and thirty. In 1915 there were no deaths in Easter Ross from this disease between the ages of one and ten, but there were 7 deaths between ten and thirty, and 3 between thirty and sixty. At present there are 8 cases under treatment—5 between the ages of thirteen and thirty and 3 between thirty and sixty.

(3) A Fishing Town on the Moray Firth

Dr Robert Douglas, Medical Officer of Health and School Medical Officer of Elginshire, has made a careful analysis of the conditions of the burgh of Burghead, for which he is acting Medical Officer of Health. This is predominantly a fishing town. From his familiarity with the rest of the county, and particularly with the school children, he is able to bring the causes of death at the pre-school ages into relation with the ailments found at school entrance. He presents his facts with such lucidity and relevance that no one need fail to construct from them a picture of this community, which has several parallels on the Moray Firth. Nothing is said of the seasonal migrations; but these have their quota from this town, as from most of the fishing communities on the firth. Between the fish-workers from the Hebrides and the fish-workers from the Moray Firth the differences are differences of civilisation, and can be fully appreciated only when the characteristics (racial and other) of the two contingents are studied in immediate contrast at the great fishing centres.

Inquiry into Child Welfare. By Robert Douglas, Esq., M.A., M.D., D.P.H.

Although I do not usually act as Medical Officer of Health for the burgh of Burghead, I have been so acting as deputy for Dr Stephen, Elgin, since he was called up on Military Service at the outbreak of war on August 1914. I have selected Burghead as typical of a fishing community in this area, the conditions and circumstances of all the other fishing communities being pretty much alike. I have selected Burghead for other reasons, the chief among them being that fishing is the only industry carried on within the burgh. It is one of the oldest inhabited places within the county, it is entirely a community by itself from the fact that it is situated on a pro-

montory jutting into the sea and is very little influenced by the inhabitants of the surrounding district, which is chiefly concerned in agriculture.

In making my inquiries, in addition to my own personal experience of the burgh, I have received valuable information from a local certified maternity nurse who has been in constant practice for the past thirty-six years and who knows intimately the people, their methods, and general condition. Unfortunately, I have not had the benefit of the doctor of the district, as of late years there have been several changes, and the present doctor has been in residence only for a very short time.

Provision for Expectant Mothers, Nursing Mothers, and Young Children

There is no public provision for these, the people themselves making their own private arrangements. There is no district nurse. There is one resident doctor in the burgh, one qualified maternity nurse, and one uncertificated midwife. It is quite exceptional to find that any confinement takes place without calling in the services of a doctor, and one or other of the nurses attends in company with the doctor in approximately two-thirds of the cases. The usual medical fee amounts to £1, 1s., with an extra half-guinea when the application of forceps or such special measures are found necessary. The nurse usually attends for ten days, and the average fee is 10s. Since maternity benefit under the Insurance Act was instituted it has been customary for the money to be expended in payment of the doctor and nurse.

Particulars under Section 7 of Memorandum, the Five-Year Period from 1911–1915 being considered

(*a*) Population in 1911, 1595.

(*b*) The number of births per annum :—

Year.	Number of Births.	Legitimate.	Illegitimate.	Male.	Female.
1911 . . .	42	41	1	24	18
1912 . . .	42	42	0	21	21
1913 . . .	35	34	1	19	16
1914 . . .	45	41	4	28	17
1915 . . .	38	36	2	22	16

(*c*) At the census of 1911 the number of children under five years in the burgh was :—

Under 1 year	34
From 1 to 2 years	41
From 2 to 3 years	33
From 3 to 4 years	31
From 4 to 5 years	27
	166

(*d*) Occupations of householders according to Valuation Roll :—

Fishermen	284	Hotel-keepers	2
Widows	20	Washerwoman	1
Labourers	11	Coalman	1
Carters	6	Painter	1
Merchants	4	Janitor	1
Carpenters	4	Outworker	1
Masons	4	Barber	1
Butchers	3	Postman	1
Soldiers	3	Wood merchant	1
Nurses	3	Draper	1
Bakers	3	Chemist	1
Shoemakers	3	Watchmaker	1
Tailors	3	Artist	1
Ministers	3	Ironmonger	1
Spinsters	2	Surfaceman	1
Woodmen	2	Clerk	1
Chemical workers	2	Cycle agent	1
Engine-drivers	2	Roadman	1
Signalmen	2	Scavenger	1
Porters	2		

(*e*) and (*f*) Already given above.

(*g*) During the five years under review there were no cases of puerperal fever or prolonged disablement following confinement. There was one case where the mother died. In this case the family consisted of two parents and four children and an adult son who was employed on the railway. The house consisted of three rooms, and was kept clean and tidy. The father was a carter, earning about 28s. to 30s. per week. Several members of the family were seized with influenza, and the mother, who was seven months pregnant, was much disturbed during the night in the midst of winter in attending to the members of her household. She contracted pneumonia, the child being born prematurely at seven months, and lived for a few days ; the mother died. Another child of this family died of broncho-pneumonia at the age of twenty months.

(*h*) The houses in the burgh of Burghead at present vary considerably. In one street on the north side of the burgh the houses are of the older type, many of them being thatched and consisting of two rooms and a closet. In some of the houses in this street it is difficult to get the benefit of sunlight in the rooms. The houses in the street referred to mostly belong to the occupiers themselves. In many cases they are poor and quite unable to rebuild the house if it should become defective and in need of reconstruction. In the rest of the burgh the houses are fairly good, and during late years many of the more prosperous fishermen have been building large and good houses of from five to seven rooms. I find it is a common experience for such a fisherman to sublet two rooms of his house to be tenanted by a young married couple.

There is very little evidence that overcrowding prevails within the burgh. Ten or fifteen years ago it was not an uncommon experience for two families to occupy a house consisting of two rooms and a closet, but during the years

under review that has almost entirely ceased, the average number of occupants being two parents and two to three children.

The healthiness of the site of the burgh of Burghead might be considered good, drainage being readily available and the streets being well cared for. The situation as a whole is high and exposed, the houses are fairly close, and not much ground is available for garden purposes. There is generally a room set aside for the confinement, the other members of the family being accommodated in the other rooms or, as is more usual, in the room and closet. In many instances where the nurse is required by the patient during the night she has to use the patient's room.

(*i*) During the five years 1911–1915 I understand there were no confinement cases of exceptional difficulty. During the nurse's thirty-six years' experience there was one case of eclampsia. The mother was a primipara and recovered, although the child was stillborn. She had only one case of postpartum hæmorrhage. The application of forceps in first cases was fairly common, although I have no reason to believe that it was more so than is generally the case throughout the country. There was one case of suppuration of the breast in the period of five years.

(*j*) I have been unable to learn the special diseases affecting children at each age up to five, but the following causes of death in the five years 1911–1915 of the forty children under the age of five years will give some indication of the more fatal diseases in the community of Burghead. A fairly large proportion of the cases are due to broncho-pneumonia and whooping-cough; the deaths from whooping-cough all took place within a few weeks of each other during a severe epidemic of whooping-cough in April and May 1913.

Causes of Death, 1911–1915

Measles	1	Brought forward	19
Whooping-cough	4	Bronchitis	3
Diphtheria	0	Digestive diseases	4
Tuberculous meningitis	3	Prematurity	6
Abdominal tuberculosis	0	Marasmus	1
Other forms of tuberculosis	0	Debility	1
Other infectious diseases (Erysip.)	1	Atelectasis	1
Meningitis (not tubercular)	0	Asphyxia neonatorum	2
Convulsions	2	Laryngitis	1
Pneumonia	8	Acute intussusception	1
		Natural causes	1
Carry forward	19		40

Ages at Death, 1911–1915

Under 1 week	8	Brought forward	29
1 week and under 1 month	2	1 year and under 2 years	7
1 month and under 3 months	3	2 years and under 3 years	3
3 months and under 6 months	3	3 years and under 4 years	1
6 months and under 12 months	13	4 years and under 5 years	0
Carry forward	29		40

SPECIAL STUDIES: EAST COAST FISHING VILLAGES

In addition, I also give particulars observed in connection with 152 school children at the age of five years on entering the public school at Burghead from the records of medical inspection cards for the five years 1911–1915. The conditions found reveal to some extent the home conditions and defects.

Measles	71	Diseases of nose and throat :—	
Whooping-cough	82	Nasal catarrh	8
Chicken-pox	38	Enlarged inferior turbinates	3
Scarlet fever	4	Enlarged tonsils	2
Diphtheria	0	Enlarged submaxillary glands	13
Mumps	5	Enlarged cervical glands	9
Unvaccinated	49	Blepharitis	4
Too many clothes	8	Defective hearing	2
Disrepair of clothing	10	Defective speech	3
Uncleanliness of clothing	29	Mental deficiency	1
Defective foot-gear	12	Heart disease	5
Malnutrition	38	Lungs :—	
Anæmia	7	Bronchial catarrh	2
Uncleanliness of head	38	Asthma	1
Uncleanliness of body	26	Dullness at apex	1
Flea-bitten	12	Nervous system	2
Teeth :—		Tubercular gland	1
Sound	28	Tuberculosis of skin	1
1 to 4 decayed	52	Inf. or Cont. disease	3
5 and more decayed	72	Other disease or defect (including hernia, septic sores, chilblains, torticollis)	9
Unclean teeth	15		
Squint	2		

(*k*) I have no reason to believe that the milk-supply of the community of Burghead is defective either in quality or quantity. One or two parties within the burgh keep about two cows each, but the bulk of the milk-supply comes as a daily supply in a cart from a farm a few miles distant. I am pleased to say that within the present year an enterprising dairyman in the county has started a supply of sterilised milk in bottles at Burghead sent direct from his creamery at Elgin. The butcher meat is largely killed and supplied locally, and any carcases that I have inspected have been generally of good quality.

(*l*) The economic condition of the family is a most difficult one to determine with any degree of accuracy. There can be no doubt that within recent years, before the outbreak of war, the fishing communities have been prosperous. It is customary nowadays for a number of fishermen to join together in the equipment and use of a drifter, with a division of the profits at the end of the fishing season. I am told that it is no uncommon thing for a person having the share of a drifter to make from £250 to £300 in a moderately good fishing season. In some cases fishermen are employed at a certain rate of wages without any share in the profits, these would be probably making from 30s. to 35s. per week. The person employed as an engineer on the drifter may receive £2, 10s. to £3 per week. These, I may say, are only approximate figures, but there can be little doubt that of late years the great

bulk of the people engaged in fishing should have quite sufficient means to provide in a proper way for all necessary expenditure in the home.

(*m*) The fishermen, as a rule, marry young, and in many cases, as I have already said, they take two rooms in a house as a sublet. It is now rare for the wives to distribute fish as they used to do some years ago. Very seldom does a wife leave her home, although some of them in their homes mend nets and bait lines. As I have said, the mother has always a doctor and usually a nurse at her confinement. As far as I can discover, about one-fourth of the children are bottle-fed, the other three-fourths being breast-fed. There is a tendency on the part of some mothers to feed them on the breast too long. It is customary for the mother to continue at her household duties up to the day of her confinement. When the child is weaned it has for breakfast porridge and milk, tea and bread. The midday or dinner meal consists of lentil soup, potato soup, pea soup, broth, or mince. Unfortunately, there is a tendency at the age of perhaps six months to begin to give the child "whatever is going in the house." In the winter season children are put to bed about 7.30, but in the summer-time much later, about 9 or 10. They rise in the morning about 8 o'clock.

(*n*) No information available.

(*o*) The general death-rate of the whole community from tuberculosis in the five-year period is as follows :—

Death-rate from Phthisis.		Death-rate from all forms of Tuberculosis.	
1911	2·5	1911	2·5
1912	0	1912	1·2
1913	1·3	1913	2·6
1914	0·7	1914	0·7
1915	0	1915	1·3

The deaths from tubercular disease in children up to five years are given in a preceding table. At the present time, on the tuberculosis register in connection with school children there is one suspected case of tuberculosis of the lung and four cases of tuberculosis of the glands of the neck.

The following particulars dealing with some of the home conditions prevailing in connection with the deaths of children under five years of age may be of interest :—

(1) Male child, aged 18 days, died from convulsions. The house consisted of one room and two attics, occupied by the two parents and seven or eight of a family. It was a tidy household. The parents worked at baiting lines and the father in connection with a small fishing boat, but did not leave home for the herring fishing. Child had breast-feeding.

(2) Twin children, one died at 2 days and one at 6 months. The first died of premature birth, the second of broncho-pneumonia. Children of a labourer. It was a first confinement, and the children were small and premature. They were breast-fed. The family occupied two rooms and a bedroom. At the time of the confinement the father had a regular pay working at a steamer, and is a steady man. Cleanliness of the house was only fair. The mother was a delicate woman and had swollen glands of the neck. Since the death of the twins another healthy child has been born.

(3) Fisherman's son, aged 9 weeks, died of marasmus. House of three rooms.

Family consisted of parents and four children alive. One attended hospital with an affection of the eyes, cause unknown. Father works on a drifter, and is steady. Clean and tidy house.

(4) Fisherman's daughter, aged 6 months, died of infantile debility. The father worked on a drifter, the mother was a native of a neighbouring village. Three rooms, clean and comfortable home. Another child died in hospital of intestinal obstruction.

(5) Son of a cooper, died at 7 months of bronchitis and convulsions. Three other children alive. Clean and comfortable home of three rooms. Breast-fed. Received maternity benefit, used in paying confinement expenses.

(6) Engineer's child, died at the age of 9 months of broncho-pneumonia. Large and very dirty family. In this house there was no need for overcrowding, although the family was mostly accommodated in the kitchen. This family has now left the burgh.

(7) Child of 21 months, died of tuberculous meningitis. This child came from America to stay with the grand-parents. They have a house of six rooms, the occupants being parents, daughter and child. Clean and comfortable home. When the child arrived in Burghead it was a delicate child, and was resident in the burgh about eight months before its death.

(8) Child of 7 months, died of gastro-enteritis. Father is in a good position. Very comfortable home of seven rooms. The services of a trained nurse were employed in this case. Child had convulsions shortly after birth. Another child in this family died at the age of 5 months of natural causes.

(9) Child of 16 months, died of gastro-enteritis. Son of a tradesman. The child was a twin. The family occupied three rooms, and besides the parents there were five or six of a family. The child was a delicate one, breast-fed for a time.

(10) Child, died 30 hours after birth, death was uncertified, but was supposed to be due to premature birth. Father a fisherman. House consists of three rooms. Two adult boys are now away from home and two children at school. Parents bait lines, and are fairly clean.

(11) Child of 19 months, died of convulsions. Occupied two rooms with parents. This child was their first. Child was breast-fed. The mother had plenty of milk. Clean and comfortable home. Wages about £1 per week.

(12) Fisherman's child of 9 months, died of convulsions and pneumonia. Very good house of seven rooms. This was a first child, although married for a considerable time. The mother is not very strong. Since the death of this child another has been born.

(13) Illegitimate child, died at 4 months of convulsions. The house consists of four or five rooms. Occupants the grandmother, the mother of the child, and her two brothers. The child seemed to get every attention, the home being clean and tidy and the child being breast-fed.

(14) Child, died at the age of 6 days of icterus neonatorum and convulsions. The house consists of four rooms occupied only by the parents, this being their first child. The case was one of breech presentation, and difficulty was experienced in resuscitating; the parents are in good health and comfortable circumstances.

(15) Child, died at the age of 15 months of teething and broncho-pneumonia. House of five rooms occupied by two parents and two children. Child was breast-fed, and the parents in comfortable circumstances.

(16) A fisherman's child, died at the age of 8 months of measles and convulsions. House consisted of two rooms occupied by parents and three children. Parents were poor, child was breast-fed.

(17) Child, died at the age of 10 weeks of bronchitis and convulsions. House of two rooms and three of a family. Young and delicate-looking mother.

(18) Engineer's child of 7 months, died of tuberculous meningitis. House consists of three rooms, with two parents, two adults, and three children at school. Clean and comfortable home. Child was breast-fed. Since the death of this child another has been stillborn.

(4) and (5) A Fishing Town and Villages in Berwickshire

These two studies by Dr E. Percy Calder correlate observations from two standpoints—the standpoint of a medical officer of health and the standpoint of a general medical practitioner. Dr Calder is acting Medical Officer of Health for the County of Berwick and, at

the same time, has such close knowledge of his cases as comes only to a private practitioner. He has selected and presented his facts with admirable precision and taste. The rapid movement of his exposition is only a reflex of his clear-eyed energy and enthusiasm. His analysis to show the differences between the fishing town and the small fishing village is of great interest. This contrast is repeated several times on the east coast, particularly on the Moray Firth. How far the peculiarities of the fishing populations round the coast are peculiarities of race could be determined only by special research. From a somewhat extended observation of fishing populations, I am inclined to infer that, at least on the east coast, there are some very pronounced and more or less segregated racial strains which have never been absorbed in the general population. Intensive intermarriage is certainly common and probably is a serious factor in personal health. On the other hand, the capacity of the fishing men and women for their special work is of a very high order. A round of the main fishing stations in the season is enough to prove that. And their achievements on the mine-sweepers—when shall we learn how much we owe to the brave boatmen of the fishing villages ?

Report by E. Percy Calder, Esq., M.B., Ch.B., D.P.H.

A Fishing Town

Explanatory Notes.—The method followed in finding out the conditions surrounding child-life in the town was by taking the births for the years 1915 and 1916 and visiting the houses in which these occurred. Of the 101 births occurring in these two years it was possible to follow up 77, and on these the report is based. The chief reason that all could not be followed up is because so many of the wives and mothers have moved to seaports where their husbands are employed on war service in mine-sweepers or patrol boats. The statistics are too small to be of much value, and therefore are not emphasised.

Approximate population	2300
Approximate births per annum	50
Average number of deaths per annum :—	
0–1	6
1–2	1
2–3	0
3–4	1
4–5	0

Average infantile mortality = 110 per thousand births. Of the 77 babies followed, 10 were found to be dead.

Occupation of Parents.—Fathers are practically all fishermen, either at the herring fishing or the line white fishing, and in practically all cases the wives work at cleaning and curing the herring. This work entails standing

for hours on more or less water-logged ground, leaning over a wooden trough containing the herring, with the arms and hands amongst cold brine, and is in most cases continued till a few days before confinement, but not started again till at least one month after confinement.

The medical and nursing service is excellent. A doctor resides in the town and also a district nurse with C.M.B. qualifications. The nursing association is kept up by voluntary subscriptions, and a small fee is charged for the nurse's services for confinements or ordinary visits.

Of the 77 confinements inquired into, all were attended by a medical man, 41 by the nurse and 36 by an unqualified midwife instead of the nurse.

During this period of two years there were no deaths of mothers just before, during, or just after confinement, and only one case of prolonged disablement from mild postpartum mental derangement.

Condition of house as regards situation, sanitation, overcrowding, and cleanliness of it and its inmates :—

Situation

Of the 77 houses, the situation with regard to obstructive buildings—narrow courts or dark damp closes—were classed as follows :—

Good	38
Fair	13
Bad	22

Sanitation and Overcrowding

Water-Supply.—This was laid on to only 29 houses, the other 44 having to draw from stand-pipes at varying distances from the houses.

Water-Closets.—Water-closets were available for 24 of the 77 houses—in some cases situated within the house, *i.e.* private, but in the majority of instances one water-closet situated outside and common to anything from two to six families.

In one tenement building occupied by five families (21 persons) no water-closet was available for their use, and in one of these tenements of two rooms were living the mother (father in Territorials), 5 children between five and fifteen, and 3 children under five, the youngest being a baby of eight months. When one considers that all excreta and refuse have to be kept from one morning till the cart returns next morning, it is not surprising that one of the few cases of typhoid occurring in the district under discussion during recent years was in this household. Again, in a different tenement building without available water-closet, was found a one-roomed house occupied by father, mother, two sons over fifteen years, three children between five and fifteen and a baby eighteen months—8 persons with only two beds in a single room. One of the older sons looks practically a hunch-back, all the young children are puny and unhealthy-looking, and, on closer examination, found all to be suffering from a skin trouble. Five children had died in infancy, but the remainder had been fairly healthy after getting past infancy with exception of neck and head abscesses (pedicular).

Again, in a house of one medium and one small room were living father, mother, 3 sons and daughters over fifteen, and 3 between five and fifteen—8 persons, no water-closet. The younger children were affected with scabies, and the baby born in 1916 had died of convulsions. The whole floor space of the kitchen-sleeping-living-room was taken up with baskets of fishing lines which were being baited with mussels, which were anything but fresh smelling. This work of cleaning the line from starfish, etc., opening mussels and fixing them on the hooks is usually undertaken by the wives every day, and as the whole process is most objectionable, from a sanitary point of view, it should be forbidden in living-rooms of houses.

In the 77 families in which babies were born during 1915 and 1916—

12 lived in one-roomed houses,
39 lived in two-roomed houses,
22 lived in three- or more roomed houses ;

and of the 167 rooms available only 113 were occupied for sleeping purposes, and in practically every case the kitchen was also used as a sleeping-room.

Many such cases could be detailed, but sufficient have been given, and, apart from the impossibility of physical well-being under such conditions of living, I would emphasise the equal impossibility of promoting an ordinary standard of moral decency, as adolescents of both sexes must not only live night and day in the same room but sleep in the same bed.

Special difficulties of doctor or nurse in dealing with confinements and infants :—

(1) As noted, one difficulty is that of getting patients to employ the nurse, and this is the more so, the better qualified and, therefore, the more careful the nurse is. It is quite usual when called to a confinement to find the lying-in room occupied by six or more interested and sympathetic neighbours, who pass the time by relating to each other all the details of "bad cases" they have been at or heard of. If nurse takes upon herself to clear the room of all except, say, the patient's mother, it causes great offence; if nurse sponges the patient frequently or gives an enema, it is considered a worry and nuisance; and if nurse is particular in obtaining and using only clean sheets, etc., for the bed, she is considered "finnicky." This difficulty will only be got over by extending the powers of the Midwives Act and making it illegal for an unqualified midwife to attend upon such cases for gain *or otherwise* when a qualified midwife is available within a reasonable distance and at a moderate fee.

(2) Personally, I have got over it fairly well by refusing to book any engagement unless the nurse is also booked to attend; also, it is very difficult to get women to notify one of the date of expected confinement beforehand, so that antenatal instructions can rarely be given or precautions taken.

The one difficulty with infants is their feeding. The mothers mostly work right up to confinement, so that though they may all wish to breast-feed they are not in a physical condition fit to continue giving a plentiful supply of nourishing milk to their babies, and bottle-feeding has, therefore, to be resorted to, which means the beginning of trouble. Unless a long serious lecture is given to each mother, explaining carefully and sympathetically the reasons therefor, I find without exception the following three faults are committed :—

(1) The bottle obtained is one with a long tube, which can be tucked nicely down the side of the cradle and the baby allowed to feed himself.

(2) The food used in the bottle is a *strong* solution of condensed milk.

(3) If, by chance, cow's milk should be selected, it has always a heaped teaspoonful of ordinary sugar added to each feed and is never boiled.

To assist the rearing of healthy children in this town it is very necessary that—

(1) The housing conditions be improved.

(2) The mothers should have a chance of learning, and be persuaded to adopt, scientific methods in the artificial feeding of babies.

The former is at a standstill during the war, but the latter could be tackled at once by the establishment of a Child Welfare Committee who should be in a position to give advice (which is cheap and not always appreciated), but also something tangible, say a scientific feeding-bottle, a weekly supply of milk-sugar for the first few months, and the loan of a small milk steriliser.

Children of this working class when a few months old seem always to be on their mothers' knees at meal times, with the result that they demand and get "just a taste of what is going," which frequently happens to be tea, currant scones, fried fish or potato chips. This can usually be corrected when the doctor is called in because of convulsions, by examining the motion and demonstrating to the mother the undigested food therein which caused the fit; and by giving the mother a chance of correcting her ignorance in these matters much discomfort, dyspepsia, diarrhœa, and death in babyhood would be prevented.

Milk- and food-supply are always sufficient, but the milk-supply is not always satisfactory in quality. This is due to the small retailers of milk in the town who, after receiving it from the dairy in the morning, keep it in a small shop in an uncovered dish and use for measuring it out a measure

that each time after use is stood anywhere on a more or less dirty shelf or counter.

The working woman does not appreciate the nutritive value of fresh milk, and thinks she is spending her money to greater advantage by buying a tin of condensed milk instead. In no case do they know the necessity of giving fresh fruit juice to a baby fed on condensed milk, though you may find them doing it when the food employed is a proprietary one, thanks to the literature sent out with it in attractive form.

Economic Condition of Family.—In peace times in a fishing community this is always a source of trouble from a child-health point of view. The income is usually very good, taking it all the year round, but it comes irregularly. For example, in spring, after winter herring fishing, each boat will divide its drawings, resulting in each man having anything from £20 to £150; in summer the same, after returning from the Irish coast; and again at Christmas, after returning from Yarmouth and Lowestoft. This means that children for a month or two go along nicely on plain wholesome fare, but after a "share up" there is feasting on all sorts of luxuries for two or three weeks. I have noticed a marked difference in the health of young children in fishing villages since so many of the fathers have gone on patrol work and regular weekly allowances are made to wives and children. Poor wages do not account for the bad economic conditions of the home, as, for example, a case where the income of the house is never less than £3 per week. In some cases alcoholic inclinations on the part of the father is the sole cause of poverty in the home, the wife being given only a fraction of his weekly earnings. Only in one case can the same fault be attributed to the mother.

Life-History of Mother and Children.—In a fishing community the conditions vary very much according to whether the village has establishments for the curing and kippering of fish or not. In the town under discussion there are many establishments of this kind, and all the labour is carried out by women. As a general rule, the young wife pregnant for the first time does not work at the herring either before or for a year after the birth of her child. After that period, however, if a "grannie" or obliging neighbour can be got to keep an eye on the year-old child, the mother goes to work. This work has been described before, and, unfortunately, is usually required at irregular and late hours—a common time being from 2 p.m. till midnight or later. In the case of the older mother, a boy or girl of ten to twelve years is frequently left in charge of the house and family—even to the feeding of baby and the putting of "it" to bed. The mother with several children is, as a rule, very dilatory over small ailments and never calls in a doctor till the infant is seriously ill. It is here that "infant consultations" would be of such advantage, so that the beginnings of illness might be observed and further progress arrested. These consultations should, if possible, be supervised by the local medical men, who should be remunerated therefor from the national exchequer, as at present country doctors cannot afford to give proper time to this work for nothing, and if it attains its object by preventing illness and disease he is further deprived of some of his income.

Tuberculosis.—There is more tuberculosis than is usual in a small

country town of this size, chiefly lungs—very little abdominal. It is mainly amongst the men, and probably owing to housing conditions and the absolute want of ventilation in the cabins of fishing boats, and this more especially during recent years, as the paraffin motor-engine is situated in the cabin in which the fishermen eat and sleep.

The town is remarkably free from infectious disease. During the past ten years there has never been any big local epidemic of scarlet fever or diphtheria. Measles was widespread last year, causing one death from pneumonia. Typhoid is practically unknown.

The Small Fishing Village

The above report details the conditions affecting child welfare in a fishing town of fair size ; and the difference between them and those prevailing in the numerous fishing villages of about 500 population which dot the east coast may be mentioned shortly.

The smaller villages have the advantage on two points only, viz. :—

(*a*) Housing is usually rather better.

(*b*) Situation of houses as regards air and outlook is decidedly better.

In regard to practically all other matters they are at a disadvantage. Their locus is close to sea-shore, and therefore not approached by railway, with the result that fisherfolk are somewhat out of the world, and therefore, as a rule, hold narrow views regarding life. Indeed they rarely get beyond their own occupation, and never interest themselves in national affairs unless these are to have some direct effect on their own occupation. Fisher people keep themselves very much to themselves and mix little with the surrounding agricultural community, and this, along with the fact that a girl to be able to mend nets and bait lines—in other words, to be " a good fisherman's wife "—must be fisher and not country bred, leads to repeated intermarriage, which gives weak offspring, and in two villages I know well both mental dullness and pulmonary tuberculosis are noticeable.

Child life therefore starts badly at the mother's conception. The life *in utero* and its exit therefrom is practically left to chance owing to entire absence of any resident doctor or qualified midwife. The doctor may be some two to eight miles away, and a qualified midwife is absolutely unprocurable.

Housing.—As mentioned above, the housing is better, but it is very necessary that this class of people be educated to make proper use of a house or that county Local Authorities be empowered to regulate the number of persons sleeping in a room. I know of many cases where a family of father, mother, and four children from six to twelve years of age occupy a nice house with kitchen and bedroom downstairs and large bedroom upstairs, and yet all of them live and sleep in the kitchen only. In winter during " bad times " there is some excuse on the score of economy of coal, but in summer-time such does not hold good. In many cases I find the kitchen and bedroom downstairs somewhat crowded, while the upstairs rooms stand empty. Certainly, for the working man with a young family, the bungalow type of house with all rooms on the ground floor has much to recommend it. Ground space is not an important matter in the country, and where a

mother has three or four "toddlers" the absence of stairs gives less risk of accidents, less work in looking after house, and less difficulty in getting older children to sleep in other rooms than the kitchen.

On the other hand, one finds in these small communities that many of the houses are double tenanted, one family occupying the kitchen and scullery and the other the downstairs bedroom.

Practically never do you find water-closets and seldom even dry-closets, the common method of disposal of excreta being that of emptying the pails into ashpits.

Milk-Supply.—The milk supplies of these small villages is usually ample and of good quality, as an adjacent farmer finds it pays to keep extra cows for the purpose, and the milk is delivered direct from the milking-pail into the consumer's milk can.

Difficulties of Doctor.—In these small villages there is no curing of herring, so that the mothers have more time to devote to their children and are very ready to ask for and follow any instructions regarding feeding or upbringing of babies. They are very observant as to their children's health; and in cases of doubt incline to seek advice early (unfortunately, not always at a reliable quarter, as a nurse proper is non-existent and a doctor some miles away), usually from a neighbouring "grannie" or village midwife whose confidence is directly proportional to her ignorance. Even if the child is examined by a doctor there is great difficulty in getting suitable hygienic and dietetic measures carried out without the supervision of a nurse.

With regard to confinements, the difficulties of the rural practitioner and the risk run by the pregnant mother are not sufficiently realised by city dwellers.

Ten miles is quite an ordinary distance between patient and practitioner in this neighbourhood. This distance means that a pregnant woman is never seen before labour starts. When labour does start in most favourable circumstances, it will be at least two hours before any skilled attention can be obtained, and in event of snowy roads or absence of medical man from his house it may be six or eight hours before such arrives. In multiparæ the baby is, therefore, frequently born before arrival, and there is little chance of the woman's life being saved should either accidental, concealed, or postpartum hæmorrhage occur. In primiparæ the doctor has often to sit in the house from ten to twenty-four hours, worrying all the time about the serious patients who should be seen, or about other appointments. A neighbour is acting midwife, and therefore the patient cannot be left for a few hours. Consequently a doctor is tempted to hurry matters by chloroform and forceps, with disastrous results to an incompletely dilated cervix and to the perineum. For these reasons forceps are too often used out of consideration for the doctor's time rather than for the well-being of the patient. After birth the supervision of the distant parent and child must needs consist of one visit by the doctor.

CHAPTER XXXIX

SPECIAL STUDIES: IV.—A SHETLAND ISLAND

UNST is the most northerly of the Shetland Islands. Dr Saxby is able to speak of the conditions of its people with the insight that comes of a lifetime's experience. As sole medical man, he knows the history of the families; as local Medical Officer of Health, he has responsible knowledge of all matters affecting the public health. He is, therefore, able to put before us a peculiarly definite picture of this prosperous island community of the farthest Scottish north. "My father and grandfather," he told us at the Dewar Committee, "practised here before me. I know the people and they have learned to know me, and it seems to me unfair to a community for a doctor to rise and leave them when he has learned all about them and how to deal with them. He owes a duty to humanity and he has no moral right to shirk it. My people are devoted to me. This was forcibly brought home to me during my illness, and I am content to labour among them even if it be to my own disadvantage." (Cd. 6920, ii., 7227.)

The island of Unst, Shetland, the furthest north portion of the British Isles, is about 13 miles long, with an average width of about 3 miles. The island lies approximately north and south, and is so indented with bays that no point on it is more than about 2 miles from the sea. As might be expected from its insular position, the climate of Unst is subject to sudden and violent changes; indeed, one might almost say that Unst cannot boast of any climate at all, but rather samples of weather, mostly bad. Not infrequently, especially in the months of January and February, the following sequence is observed, viz. morning bright and warm; midday gale with snow: afternoon wet; evening bright and clear with frost.

To the close proximity of the Gulf Stream is no doubt due the somewhat high average temperature. We do not suffer from the intense cold in winter, nor are we favoured with the great summer heat observed in most other places in the same latitude.

The inhabited districts of the island may be roughly divided into four, viz. the South Parish, comprising Uyeasound and Muness; the West Parish, or Westing; the Mid Parish, or Baltasound; and the North Parish, which includes the practically contiguous villages of Haroldswick, Norwick, and Burrafirth. This last-named district is by far the most thickly populated,

its population being at least equal to the whole of the other districts added together.

The people are for the most part crofters, comparatively few follow the fishing, or any other industry. This is very different from what used to be the case, when practically every able-bodied male was a fisherman, crofts being then a very secondary consideration. It has been found that crofts properly worked, with the high prices now paid for stock, pay far better than the fishing ever did.

It is a great mistake to assume that the average Shetland crofter is badly off, or in any way to be pitied as having a hard lot. As a rule they make a good living, and if they take proper advantage of the wave of prosperity which is passing over the Shetland Islands, the crofters will be the best-off class in the whole place. On the whole the islanders are well fed, well clothed, healthy, and industrious.

Of the few cottars and labourers I cannot speak so favourably, their lot is much less pleasant. (It must be understood that I am speaking of normal times, just now every one of the crofter and cottar class is reaping the benefit of high wages, separation allowances, etc.) Labouring work in normal times is uncertain and poorly paid, 3s. for a working day of ten hours has been considered good pay. It is very rarely that wages are paid weekly, the employers of labour are chiefly the local merchants who are also manufacturers and contractors.

The houses of the crofters compare very favourably with those occupied by the working classes in country districts further south. With very few exceptions, the houses are built of stone and lime, with roofs of wood covered over with tarred felt or similar material, and are warm and comfortable. In Unst there are very few houses thatched with straw. The average house will have two large rooms down stairs and two attics. The living-room, or "but end," is generally about 15 feet by 12 feet, and here the family sit, work, and have their meals. In many cases this room will contain a bed, but this is not so common now as it used to be. The "ben end" is almost entirely used as a sleeping place, but as it generally contains a few special chairs, a table with a coloured cloth, and some pictures and other ornaments, it is the room into which strangers and better-class folk are shown.

This same "ben end" has beds arranged along two sides, usually two, but sometimes three beds. These beds are not closed in as they used to be; they are open in front, though light muslin curtains are arranged to draw over the front at night-time. The upstairs rooms are used as sleeping-rooms, or, if not required for this purpose, stores of various kinds will be kept in them.

It is not very common now to find more than one family, except a young couple and the old folk, occupying one house, and overcrowding is very rare. Very few houses have any sanitary conveniences.

Intermarriage of near relations is common, especially in the north part of the island, and while theoretically this should be discouraged, I have not been able to convince myself that in this healthy locality it is followed by any bad results, except where on one or both sides of the contracting parties there is a history of mental weakness. These marriages of close relations seem to be very prolific as a rule, and the children healthy.

SCOTTISH MOTHERS AND CHILDREN

Illegitimate births are not by any means frequent, and in no case have I ever found the children neglected or the mothers harshly treated. The people take the philosophic view, " It's da Lord's will, and we can go nae further."

The population of Unst at last census was 2077, but this included about 300 stranger fishermen, so that the actual population would be about 1800.

Here is the number of births registered for the years 1912–1916 :—

1912	37 births
1913	24 ,,
1914	33 ,,
1915	27 ,,
1916	26 ,,

Deaths of children under five years have been six in number, viz. :—

1912	One child under one year
1913	Two children under one year
1914	One child under one year
1915	Two children under one year
1916	None have died up to date

In 1913 two children between two and three years died. So that there are alive at the present time 141 children under five years of age.

In only one case was the cause of death of a child under one year certified, viz. in 1915 a child six days old, cause debility from birth. This child when born was not expected to live. All the others registered seem to have died immediately or very shortly (a few hours) after birth.

There are no trained midwives in the district, but there are four very capable women who attend most of the confinements, the doctor being called in when labour seems for some reason unknown to the midwife to be unduly prolonged. Generally speaking, if labour has gone on for eight to ten hours without visible result, the doctor is summoned.

It is quite the custom now for expectant mothers to consult the doctor a few months before time of expected labour, and to ask him to attend if required. My invariable rule is to tell such people that if they feel the least bit anxious they are to send at once, whether or not the midwife desires it.

The number of cases of confinement attended by a doctor is less than several years ago, the reason being that while the old incapable midwives hung on, younger women would not undertake the duties, and the two older women being too feeble had frequently to call in assistance. The following confinements were attended by a doctor from 1912–1916, viz. :—

1912	6 cases
1913	6 ,,
1914	10 ,,
1915	8 ,,
1916	5 ,,

rather less than a quarter of the total number of confinements.

It is interesting to note that in the crofting districts, which include the whole island except Baltasound, labour is as a rule quite normal; while in Baltasound, in almost every case where the woman belongs to and has been

brought up in that district, and where the mother's work is usually confined to household duties, knitting, and other sedentary occupation, some skilled assistance is nearly always required to effect delivery. Inertia of the uterus seems to be the usual difficulty.

This would seem to indicate that outdoor work on the farm is directly conducive to quick, easy labour; while indoor life, and trying to dress up to fashion-plate standard, has the directly opposite effect. Women, as a rule, follow their ordinary occupation until pains of labour compel them to give in.

One woman died immediately after childbirth in 1915. No doctor was in attendance at the confinement. The cause of death was heart disease, and the woman's husband had been warned that any great strain incurred by the woman might lead to her sudden collapse. In this case the doctor was called by the midwife by telephone as soon as the patient "fainted," and he was at the house, three and a half miles distant, within half an hour after receiving the call, but death had apparently been instantaneous.

One mild case of puerperal fever has been the record for eighteen years' practice, and it is not improbable that this was conveyed by the trained midwife who was stationed in the district when I first came. Certainly, not long before my coming here, she had lost a patient with puerperal fever, and her ideas of cleanliness left much to be desired.

There are no *special difficulties* encountered by doctor or midwife in attending confinements, except when roads are blocked with snow.

Unst is well provided with good roads to within a few hundred yards of practically every house. Horse vehicles are easily got in the north end of the island, a motor can be summoned from Baltasound by telephone or wire sent from either the north or south districts. The doctor has used a motor-car for nine years, and, provided he happens to be at home, can reach any house within an hour of being called. I may say here that the motor has been of the greatest use, and it is very rarely now that more than an hour or two is taken up per day with ordinary rounds, little time is spent in travelling, and it is possible to be at home at fixed hours.

Deformities and diseases of infants up to one year are not common. We find the troubles incidental to teething and errors in feeding as frequently as in other places. There is on the part of young mothers perhaps too great a tendency to experiment with starchy foods at too early a stage in the child's life, and this is followed by results one would naturally expect. But such folly is becoming less frequent. From one to five years, gastric disorders are all too common. I think that too often these young children are fed on "just a bit o' what we hae oorsells." This means strong tea well boiled, hot scones, half-cooked oatcakes, salt fish, and other such rubbish, which even strong people can just manage to exist on.

Apart from these stomach troubles, it must be said that children under five years are remarkably free from illness, though they are not kept so clean as they ought to be.

The arrangements made by the Medical Service Board have been followed by good results, parents are now able to send for a doctor before a cold in a child becomes serious, etc.

The *milk-supply* among the crofters is satisfactory, but in places like Baltasound and Uyeasound it is not often possible to secure an adequate

supply, as there are few crofts in these districts, and farmers find it more profitable to rear pigs and calves on the milk than to distribute it among the people.

Food of all kinds is in normal times easily procured, Unst being well supplied with shops.

Oatmeal and flour are brought from the south ; almost no oats is ground locally, the crops grown on the island being almost entirely used for feeding stock.

Potatoes are at all times plentiful. Meat is being used far more than formerly, mutton is the principal form in which meat is used. Cattle fetch such high prices that it is found more profitable to sell them than to kill and use locally. Eggs are plentiful and cheap in the summer, but the opposite in the winter ; the haphazard method of rearing poultry is by no means profitable.

Rice is used a good deal, both boiled in milk and made into soup with meat. Onions, turnips, and cabbages are also largely used, but no other kinds of vegetables are in general use.

Though tea is the usual beverage, and is drunk in great quantities, cocoa is now very much used, especially for children.

Sugar and sweets are consumed in enormous quantities, both by adults and children of all ages. Of course, I am speaking of normal times, just now there is a great scarcity of sugar.

As to general economic conditions, I have made a rough calculation, certainly an underestimate, and find that since the war started not less than £20,000 per annum is coming to the people belonging to the island in the way of old-age pensions, separation allowances, pay to men employed in the forces, etc., and this calculation is not taking into account sums realised by the sale of stock, which must amount to two or three thousand pounds at least.

A fairly well-to-do crofter will have at least one fat cow, one milking cow, a calf, several sheep and ponies, twenty hens, and perhaps a pig. Fat cows have this year sold for £12 to £15, milk cows about the same, and year-old calves have fetched anything from £5 to £7.

A crofter thus gets from his croft milk, butter, eggs, and vegetables, wool for making stockings and shawls, which latter realise good prices ; he also gets mutton and poultry, and the price of his animals pays the rent and also provides necessary groceries.

Fish can always be got if he takes the trouble to try for it.

Fuel (peat) is easily procured in abundance.

Tuberculosis, though formerly very common, whole families being wiped out by it, is now exceedingly rare in any form. There is only one case on the island at present, and to all appearance the man is cured. It is probable that tuberculosis is becoming rare owing to the improved conditions under which the people live—better houses, better food, absence of overcrowding, greater cleanliness in houses and person, and also there is not now the great difficulty in making ends meet (not so great mental worry).

Cattle are better housed and do not suffer from tuberculosis as far as I can see.

There is no doubt that the effects of the National Insurance Act and

the Medical Service Board arrangements as powerful agents in preventive medicine are already making themselves felt. Folk do not now put off seeking medical advice until it is too late. No doubt this entails a lot of extra work on the doctors, but it is less anxious work, and no man with the interests of the public at heart grudges the work when he sees it to be of such benefit.

After all, the work, at least in this island, is not hard on the whole. Though more work is done professionally perhaps, the time occupied is nothing like the amount it used to be since motors became a practical problem.

In the interests of child welfare doctors should be encouraged to stay in these outlying places, frequent changes are bad because in this case a doctor never gets to "know the constitution" and family history of his patients, and so his work must be greatly experimental.

Epidemics of measles, scarlatina, etc., occur from time to time, and hardly a child escapes who has not had one of these diseases before; but it is rare to find cases of any great severity, and complications and sequelæ are very rare because sick children are well looked after by their parents and guardians.

Young children are frequently troubled with thread worms, sometimes with tape worm. These are perhaps conveyed in drinking water drawn from shallow wells, and very likely also from dogs which lie about all over the place. Children's teeth seem to decay early, quite a contrast from former times. While it is rare to find a child of school age with a good set of teeth, it is quite the rule to see old men and women with almost perfect sets. In connection with this, it will be noted that the old folk were brought up first on their mothers' milk and later on the produce of their land, home-grown oats ground into meal in the hand mills, plenty of milk, and fresh fish. Now there is far too much fine clean oatmeal and wheat flour used, too much tea and sugar.

Defects of vision, though only noticed when children arrive at school age, are rather frequent; I often wonder if the violent rocking in the cradle during the first two years of the child's life has anything to do with it. I cannot think that it is good for a child's sight to rock it so much when its eyes are wide open trying to fix some object and being roughly dragged away back and forward from the object it is trying to look at.

Rickets is seldom seen; I do not know of a case in a child under school age. There are no idiots or imbeciles under fourteen years in this district.

As mentioned before, a woman usually goes about her ordinary work up to the time of her confinement. At the first signs of labour coming on, the midwife is sent for post-haste; if she lives any distance from the patient a vehicle, either horse and trap or motor, is requisitioned. The patient goes to bed and remains there till, at the earliest, the "ninth day." The midwife arrives and stays at least until labour is completed, no matter how many hours or days (in cases of false alarm) that may be.

Formerly it used to be thought dangerous to wash the patient at all after childbirth, any old pieces of cloth were thought to be good enough to use for absorbing discharges, and I often wonder how the poor women ever got well again. I have now got the women to understand that absolute cleanliness is necessary, and that if the patient becomes feverish, and my instructions have not been carried out, the midwife will be blamed. It is gratifying to

find that sanitary wood-wool outfits are being very generally used. The navel is invariably dressed with a piece of linen well scorched, and this dressing seems to answer quite well. Up till quite recently the poor woman was practically starved for four or five days, but now a more common-sense view is taken, and proper nourishment allowed. On the ninth day the woman is allowed to get up, and as soon as she feels able resumes her household duties.

The infant spends most of the first two years of its life in a cradle, generally made of wood, with a wooden hood absolutely wind-proof. There is seldom any regularity observed in feeding ; a cry is the sign that the child wants food, and in consequence the child is constantly overflowing.

When the mother can she generally does nurse the child at the breast, but for convenience the bottle is often used as well during the day-time ; at night the baby is usually, but not always, taken into its mother's bed. At about three months some cornflour or oatmeal gruel is added to the milk, and then the trouble begins. The advice of the doctor to discontinue starchy food until at least one or two teeth have appeared is sometimes followed, but old wives still have great influence in these undiscovered territories.

Children up to one year of age are seldom taken outside. From one to five years the children are well looked after, accidents and serious illnesses are rare. As the children are not much taken out they are very shy, and remain so all their lives.

As far as I can make out, the maternity benefit under the Insurance Act is spent in paying nurse or doctor, or both, in buying little comforts for the mother and child, or, where the husband is well off, in providing extras for the household. I don't think it is ever actually wasted.

The Notification of Births Act has been ignored here. I have never received a single notification, and feel certain that if the provisions of this Act were rigidly enforced it would do much to help reduce the already too high infant mortality.

Then, again, deaths should not be registered without a medical certificate or until careful inquiry as to probable cause has been made by some competent person, who should not be the local registrar.

While it does not seem to me to be actually necessary to have certificated midwives just at present, the existing midwives should be under proper supervision and control. The Midwives (Scotland) Act provides for this, and it should be seen to that the Local Authority does not shirk its duty in this important matter.

Lectures to mothers and to young women on care of their own health and the care and nursing of infants and young children would be of the greatest benefit.

This, and the proper supervision of children from infancy up to school age and after, should be arranged for. These duties could be properly and easily undertaken as part of the work of the local Medical Officer of Health.

CHAPTER XL.

SPECIAL STUDIES: V.—ANOTHER SHETLAND ISLAND

Dr Henry Pearson Taylor, Medical Officer of Health of the North Isles District and sole medical practitioner in Yell and the adjoining island of Fetlar, has furnished me with many details of the work of a medical man on those islands. He has been there since the week after his graduation in medicine at Aberdeen some twenty-seven years ago. He has seen many changes, and doubtless helped in them. "But there are great improvements since I came here first. When I came here first there was hardly a road in the place, while now there is a road almost everywhere. I had to do my work first walking, and then I had a horse, and then I had a bicycle, and now I have a motor bicycle, and even with twenty miles it is simply nothing. If they telegraph for the doctor, you can do the thing in an hour and a half." He might have added that he had also a motor-boat, with a motor fitted by himself, and economised energy and time in getting from voe to voe. I shall not soon forget the fine sweep of his boat as she swung out in the light of afternoon to meet the *Norna* in Mid Yell Voe, the doctor standing at the prow, energy and action in his every line. It was a symbol of how much an active doctor counts for in those islands, and a proof that he had lost none of the practical energy and capacity his fellow-students knew well thirty years ago.

In 1911 the population of Yell was 2348, distributed as 527 families in 512 houses. Fetlar had 279 people, distributed as 57 families in 57 houses.

On referring to the memorandum one is rather bewildered as to where to begin or how to treat the subject. However, I shall try to confine what I have to say strictly to what I have experienced during my 26½ years' service in the islands of Yell and Fetlar.

There are so many points arising out of the present flood of legislation with which we are being overwhelmed upon which I could in an interview, rather than by letter, possibly enlighten you somewhat as to how such legislation could not apply practically to places such as this.

Men who have lived for years in these remote parts know local difficulties

and the social conditions of the people intimately, and are thus enabled to estimate their true needs more accurately than is reasonably possible by those unacquainted with problems in the Highlands and Islands of Scotland.

During my 26½ years' practice here I have personally conducted over 1000 midwifery cases, normal and abnormal, and you will pardon an expression of the pride I feel in being able to say that I have never lost a single case. I have had cases of subsequent septic trouble, but all recovered. One case of acute peritonitis I nursed myself for a week, and brought her round. The complications with which I have had to deal were principally occipito-posterior in primiparæ, the most troublesome of the lot in my experience; three of placenta prævia; two shoulder presentations; two hydrocephalus; three monstrosities; and several cases of twins, and one of triplets, the latter premature, all the children being dead-born.

There have been two deaths due to puerperal fever, but I was not called in till late. During the last five years I have been engaged by almost every woman in her confinements. Incidentally, I would like to say that prior to any doctor being stationed in these islands, mothers reared families numbering ten to fourteen children, all assisted by local "skilful women." The mothers came round all right, the children lived, and are now fathers and mothers of large families themselves. One old wife aged eighty-seven, the mother of eleven children, told me: "I never had a doctor. The wife who came to me from Unst used to bring a testament and a razor with her. The razor she placed under my pillow for luck, and she used to read a chapter out of the testament now and then to keep up my spirits."

How these women lived without doctors, trained nurses, and antiseptics is a matter upon which you will form your own opinion. Mine is that child-bearing is the most natural process in nature, and the less one interferes with the powers of nature, provided no mechanical obstacle exists, the better. My own practice is to do as little as possible, when everything is normal, and keep my patient cheery. Generally speaking, I have found the majority, the great majority, of my cases quite normal.

The "skilful woman" is usually called in first to be handy until the doctor arrives, when he conducts the confinement. This has been the practice for over thirty years.

In justice to many of the "skilful women" I must say that here, at least, there are excellent and cleanly women, still alive and active, although over seventy years of age, who have attended Shetland women in their confinements for over forty years with the greatest success. One woman in this island tells me that she is repeatedly taken over to the mainland to attend her "old cases." I hold no brief for these women, I only state a fact.

Expectant Mothers.—With regard to expectant mothers, my experience is that all they do is to ask me to attend them when their "time is up," and when I am thus asked I give them advice for their guidance during the later weeks of pregnancy Shetland country women are strong and healthy as a rule and work very hard, and I find they need little or no advice. Some I know would resent it. The women here never cease work, because they cannot afford the time. Neither is there the least need for it. The woman who keeps on her legs to the last generally comes out best during her trouble. The mothers never go to the fishing except for fun in the summer evenings.

Nursing Mothers.—After the child is born, the woman keeps her bed for a week if a primipara, and four or five days if a multipara, according to her family or domestic needs. She commences nursing the child during the first twenty-four hours, and there is nothing more about it. Mother and child do excellently.

Housing.—Many families have only a "but and ben," but the majority now have three or four rooms, two above and two below. On an average, say, six persons per house and three or four dogs.

Overfeeding.—By overfeeding, I only allude to breast- and bottle-feeding. Shetland mothers possess vastly more common sense than the poorer class of women and girls in the city slums. The former never use anything but milk, adding a little gruel after the first six months. Many now use approved food when milk fails. In contrast to this, I have read of women in cities giving their infants gin and salt herrings and other indigestible stuff. Shetland mothers never do.

Tuberculosis.—Tuberculosis is, as I have stated in my annual reports, too prevalent. The chief causes, in my opinion, being tubercular cattle, housed as they generally are in heated, unventilated, dirty, unlighted byres. These are the conditions which are likely to propagate the tubercular bacillus. I have on several occasions examined the carcases of cows which had died from symptoms pointing to tuberculosis and found undoubted objective signs of tubercle, and I am firmly convinced that one of the primary causes is these abominable byres. Personal infection most decidedly comes into play. I cannot imagine any form of local administration so criminal as to condemn an infected person, be he one of "the insured population" or a dependent, to what is called domiciliary treatment in an overcrowded crofter's house. He, or she, cannot be properly isolated from the rest of the family and becomes a source of infection to others and also the neighbours. (Dr Taylor gives details of illustrative cases.)

CHAPTER XLI

SPECIAL STUDIES: VI.—EXPERIENCE IN A SKYE PARISH

THESE general notes by Dr Grant Macdonald confirm the conclusions of the other contributors.

PARISH OF UIG, SKYE. By A. GRANT MACDONALD, Esq., M.B., C.M., *Parish Medical Officer*

First of all, regarding expectant mothers, no provision whatever is made, except that in nearly all cases the welcome and efficient services of the district nurse, supplemented in abnormal cases by the medical officer, are requested. The same applies to the children until they reach the school age, when the medical officer for the schools inspects and reports.

The townships in this island represent villages of average size, and number anything from 100 to 300 of a population. The number of births in Skye in 1915 was 236 in a population of 12,126, giving a birth-rate of 19 per thousand.

The infant mortality in the same year was 69 per thousand. The figures for 1914 were: birth-rate, 23·7; infant mortality, 66.

In these parishes parents are almost entirely of the crofter and fishing classes. The services to mothers during the confinement are rendered, often in an unsatisfactory way, by neighbours; but in the majority of cases the services of the district nurse are readily taken advantage of.

Death of a mother from puerperal or other associated diseases is exceedingly rare, although illnesses following these cases are frequent.

Sanitary Condition.—The sanitary condition of the individual household as a whole is most primitive and unsatisfactory, and cannot be much improved except by building new houses on a recognised plan.

As to sanitary surroundings, in a large number there is only one low room with low ceiling, small fixed windows, a single small door, and no proper chimney accommodation. In many cases there is not even an opening in the roof of the houses. Except in the newer houses, the floor is always sandy and muddy.

In many cases the cattle live under the same roof and breathe the same atmosphere. The number of persons in them vary from four to twelve, with, in many cases, two to four head of cattle.

The cooking is usually simple and, as a rule, cleanly, although exceptions to these rules are numerous.

The sites of the houses are chosen indiscriminately, and no drainage of any kind is attempted. Damp, boggy, and undrained lands surround these dwellings, and, as a rule, the house refuse is simply thrown out of doors, and frequently on the top of the manure heaps, which for nine months of the year lie stagnant until they are opened up—often on a hot day early in

summer, and the noxious atmosphere is blown for days, and sometimes weeks, into their homes.

The chief difficulties encountered by doctors and nurses in attendance on child-bearing women and their children are largely due to the long distances, the indifferent attention (usually through ignorance) that these mothers give to themselves. They are often hard-worked and are inadequately and insufficiently nourished, and hardly ever rest for a sufficient time after their confinement.

The infants are mostly fed on the breast, but when fed on the bottle inattention to cleaning the bottle and tubes, or using the proper dilution of milk, according to age, frequently brings about gastro-intestinal disturbances, and these in their turn lead to debilitated conditions. In these children illnesses of all kinds are frequent.

Teething is slow in its progress, and sore throats and suppurating ears, with the usual sequelæ, adenoids and enlarged tonsils, are very common; and tubercular diseases of bony origin are of frequent occurrence. Conjunctivitis and corneitis are frequent and are greatly aggravated by the peat smoke.

As a rule milk is procurable, most crofters keeping their own cows; and at certain seasons fish is plentiful, as are also eggs and potatoes. Tea is largely used at all ages; it has replaced the simpler forms of diet. The economic condition varies much, as many are in comparative affluence; but a large section, often through laziness and lack of ambition, slide along, living from hand to mouth—but sometimes, through loss of their cattle, or on account of prolonged illness, live in very straitened circumstances.

In a great majority of cases the people could not subsist on what their crofts or the sea could give them, depending largely on money sent them by their families in service in cities or living in the colonies.

Tuberculosis is not infrequent, and is mostly introduced by members of families who have been resident in the large industrial centres. The bad housing and ignorance of the serious and contagious character of the disease may explain the cause of many of the cases. More rarely they follow pleurisy and pneumonia and the exanthemata.

I am convinced that by educating the people as to the serious nature of the disease, of its contagious character, and how it can be prevented by the close supervision of the Public Health Authorities, supported by medical officers of parishes and district nurses, and the ready and full supply of disinfectants, spittoons, etc., the disease could be stamped out in these islands. If, in addition to these efforts, huts or small wooden hospitals were associated with hospitals already existing in Skye, the results would be much better than those achieved by the sending of patients to sanatoria.

General Remarks.—To improve the conditions referred to in your circular, public opinion in these townships must be educated as to the value of proper sanitation. The house and its surroundings, the drainage, the condition of byre and home under the same roof, the removal of manure heaps, proper ventilation, good foot-paths to allow children to have dry feet while at school, must receive early, serious, and continued attention. Cooking lectures practically illustrated, the encouragement of growing and using vegetables; the earlier notification by nurses of acute diseases of bone, hoping to prevent

necrosis and joint disorganisations ; the facilitating, as far as possible, of isolating tuberculous cases, and the provision free of charge of disinfectants and spitting utensils ; the compelling of School Boards to carry out the recommendations of the medical officer of schools—all these would have, in my opinion, a very salutary effect on the health of those referred to.

Directions to teachers as to the opening of windows and flushing with fresh air of schoolrooms at intervals during the day, and for an hour before the scholars arrived, would, I think, lessen the tendency of one child infecting another, or several such cases rendering a whole room a danger to all the scholars.

CHAPTER XLII

SPECIAL STUDIES: VII.—EXPERIENCE IN A HIGHLAND MAINLAND PARISH

Dr David Wallace, who has had experience of conditions in one or two rural areas, has furnished me with some very interesting observations on one of the outlying and broken-up parishes of Wester Ross. In the evidence of the Dewar Committee are recorded many other valuable facts about the Highlands generally and Lochbroom in particular. A glance at Map 1 will show how difficult medical attendance must be where the lochs break up the land so much and the people are so irregularly distributed. The rugged coasts from Cape Wrath to Ballachulish can furnish many parallels to Lochbroom.

Parish of Lochbroom. By David Wallace, Esq., M.B., C.M., *Parish Medical Officer*

Child Life under Five Years of Age

The parish of Lochbroom may be said to be populated by two classes of people. In the village of Ullapool we have small traders and their employees, labourers, and fishermen. In the landward portions of the parish we have crofters or smallholders. The conditions of life are very much the same in both classes, as each feuar in Ullapool keeps a cow; but while there is, in the majority of the crofts, milk all the year round, in Ullapool there is a milk famine every winter.

The houses of the crofter are for the most part good and recently built, consisting of stone and lime, slated or corrugated iron roofs (or felt), with two good rooms downstairs and two more or less sloping-roofed rooms upstairs. Of the new houses the kitchen has usually a concrete floor, the others wooden. On the whole the sanitary conditions of the roof, walls, and floor are good, but no attempt is made to provide water-closets or privies. The crofters are well-to-do, and poverty or want is not known amongst them. In Ullapool the housing conditions are good, and there is very little poverty.

The population of the parish is roughly 3000. In the Lochbroom Registration District the population is 2100, of whom 700 reside in Ullapool. For the Lochbroom district the number of births averages 25 per year. Five die every year under five years of age. For the last two years four out of the five were under two years, and *four out of the five were bottle-fed babies*, and the cause of death was gastric or teething troubles.

SCOTTISH MOTHERS AND CHILDREN

The majority of the babies born are breast-fed and give little trouble.

I find in the majority of cases the mother has sufficient milk, and an attempt is made to breast-feed the baby.

Unfortunately, in a wide parish such as this, the doctor cannot visit the patient every day, and his greatest difficulty is to make a young mother (and the old women who come about the house whenever the doctor's back is turned) understand that every time the baby cries it is not from hunger, but rather from overfeeding. The old women say " the milk is not satisfying it," and straightaway the child is fed with milk (cow's), then porridge, gruel, etc. The crying continues, the mother is harassed, gets no sleep, and the second flow of milk is arrested, and the child is put on the bottle, if it lives, and the mother is pregnant again.

This is the history in 99 cases out of 100 of the genesis of the bottle-fed baby in a rural working population, and is the history of all the bottle-fed babies who have died in Lochbroom during the last two years.

I am sorry to have to state that the average midwife in rural districts, who has gone in for three months' training simply to make a living, because in most cases she has been left a widow, is very prone to bottle-feeding, and in my experience knows very little of infant feeding, and makes no attempt to encourage breast-feeding. I am saying this deliberately, for I have seen it over and over again, and I feel convinced from a long experience of midwifery that more than 95 per cent. of mothers could breast-feed their children if care was taken at the start and the second flow of milk safeguarded.

Through the lack of knowledge regarding breast-feeding two evils crop up, (1) an ailing child, and (2) a mother pregnant again before she has recovered her strength, and soon with a second baby on her hands before the first was walking.

This to a great extent could be obviated by regular supervision of young mothers by properly trained nurses, such as we hope the Highlands and Islands M.S. Board will institute in the Highlands.

Regarding children over two years and under five, there have been no deaths for the last few years, except two cases of scarlet fever; and it may be stated generally that during these years there is little to comment on their health, which is usually good.

Two cases of tubercular disease—meningitis—have occurred in children under ten years of age. In both cases the houses were of the old black type, thatched roof, and earthen floor; and, in the absence of any other known source, the house was probably the source of infection.

A remarkable case of tubercular infection due to milk occurred in my experience in Argyll, some years ago. A ploughman who lived in a new cottage, and in whose family was no trace of hereditary disease, had a child die of tubercular meningitis. A shepherd on the same farm, whose house was eight miles from the ploughman's, had a child who had tubercular lung disease after scarlet fever. It was found on investigation that both the ploughman's and the shepherd's cow suffered from tubercular disease. With regard to the shepherd's house, no case of tubercular disease had been known in it, nor was there " consumption in the family."

Supplementary

(1) *Maternity benefit* under the Insurance Act calls for no comment, as, owing to the lack of poverty, its advent causes no excitement.

(2) Working women, as a rule, work up to the very last before confinement, and, as a rule, are none the worse for it; but many of them get up too soon and resume their work too soon, which does not help the milk supply and may cut it off before it is properly established, not an uncommon occurrence.

(3) In this parish women do not follow the fishing.

(4) The majority of the houses are quite suitable for confinements.

(5) Breast-feeding is the rule, and of the children who died under five years, four out of the five were bottle fed. These figures have been taken from the registrar's books, and all are cases personally known to me.

One mother has died in the last six years from phlebitis after childbirth. No doctor was called till too late.

CHAPTER XLIII

SPECIAL STUDIES: VIII.—A SOUTH-EASTERN AGRICULTURAL AREA

DR PERCY CALDER has furnished me with a third study from his county. The difficulties of milk-supply and the way of overcoming them have a special interest at the present crisis. When the Committee now investigating the milk-supply reports, we shall probably find among their proposals some method of securing such production and distribution of pure milk as will meet the clamant needs of mothers and children. The housing of rural workers will be discussed in the forthcoming report of the Housing Commission.

By E. PERCY CALDER, Esq., M.B., Ch.B., D.P.H.

1. The conditions of maternity and child welfare in an agricultural area is in many ways similar to those of the small fishing village. The conditions are ideal for the production and rearing of the perfect child, for example—

(*a*) Fathers occupied in not overstrenuous work in the open air;
(*b*) Mothers have mostly worked on the farm since leaving school;
(*c*) Constant "flitting" from long distances of farm-workers, leading to good intermingling of persons in marriage—hence no in-breeding;
(*d*) Houses situated in excellent surroundings as regards fresh air and sunlight.

2. The advantages, however, are largely counteracted by the following conditions:—

(1) Bad houses, and even if houses good, they are *badly* occupied.
(2) Distance of water-supply.
(3) Insufficient income if family large.
(4) Deficiency of milk-supply.

To take examples of those seriatim:—

(1) *Bad houses.*—This in agricultural areas is the rule. The floors are of rough concrete or cement, or even bricks laid flat and bedded-in with ordinary earth. The windows are small, with frequently only lower sash made to open. Houses are too small, consisting frequently of a kitchen with a small bedroom opening off it, and in many instances adults of opposite sex have to sleep in the same room.

(2) The *water-supply* for farm cottages is often much too far away, but cannot be corrected, as the Public Health Act rule of "within a reasonable distance" is indefinite. In one case the occupiers of two newly-built excellent cottages have to carry all water a little over 400 yards.

(3) Though farm-workers are free from local taxation, yet the wages are too small to do justice to a large family. For instance, in one case seen recently the father got 25s. per week, and out of that had to clothe and feed himself, wife, five children between five and fifteen and two under five, or eight persons in all. The children were all puny-looking and ill-nourished, one girl of eight had slight and one of four very marked valvular disease of heart.

(4) *Deficiency of Milk-Supply.*—This problem must soon be faced by legislation, as within recent years farmers will not allow their ploughmen to keep cows. The reason given is that these people constantly appropriate corn and bran from the stable and cake from the granary to give to their cows. On the other hand, it adds to a mother's work and difficulties if she has to milk a cow two or three times a day at the same time as she has an infant to look after.

One farmer has overcome the difficulty mentioned above and encourages his employees to keep cows under the following conditions : that the workpeople's cows are run in the same field as his own in summer and occupy the same byre in winter, and are entirely looked after—*i.e.* groomed, cleaned out, and fed—by the farm cattleman, and that under no circumstances must the owner give his cow any food. For this work entailed and cost of food a small sum was deducted from the man's wages, but not nearly sufficient to repay the outlay. This worked very well, but about a year afterwards he discovered that three-quarters of the milk from the workpeople's cows was being sold to employees of neighbouring farms. The milk produced from the cows which he was supplying with food and keep for the benefit of his own people was, therefore, not being consumed by them, but actually by people employed by a man who refused permission to keep cows. Thereafter, an arrangement was come to whereby only one-quarter of the milk would be sold. This has worked satisfactorily ; but, at the same time, this farmer is of opinion that it would be better to arrange to give each householder a certain amount of milk (which could not be sold by the householder) in the same way as potatoes are given.

This scheme would have many advantages :—

(1) It would encourage each farmer to establish a small dairy on proper sanitary lines.

(2) The loss of a cow by milk fever or tuberculosis would be better borne by the farmer than by the ploughman.

(3) It would ensure each child on each farm getting an ample supply of fresh milk of good quality.

(4) The control of milk, cows, and cowsheds would be simplified for the sanitary authorities.

Nursing.—The difficulties of medical and nursing attendance are similar to those of the small fishing villages, but more accentuated by greater distances and the impossibility of establishing infant consultations or welfare centres.

The only possible solution on economical lines for a rural area is to enlist the services of nursing associations. Most counties have now such associations established which consist of a central home where the nurses reside. These nurses are sent for a year's hospital training in general nursing and midwifery, and must take the C.M.B. certificate. Working-class members

of the association pay an annual subscription of 2s., and get a nurse for 3s. 6d. per week when one is required. The disadvantages of this arrangement are :—

(1) The nurse has to live all the time in the patient's home, which is already overcrowded.

(2) As one has to send fifteen miles for a nurse, she cannot be procured during the night or on Sundays, and therefore she has to come to the patient before baby is expected, which calculation frequently is two weeks wrong, and so entails expense both in food and money for the patient.

(3) The nurse is of use only to one person during all the time she is in that neighbourhood.

To give the people full advantage of the nurse's skill, I would suggest an arrangement as follows :—

(*a*) Instead of keeping all the nurses in a central home, only half be kept there and the remainder be stationed in villages about ten miles apart and preferably where doctors resided.

(*b*) That doctors be asked to associate themselves with the nurses and as far as possible to persuade all patients to book the nurse for confinements.

The advantages of this arrangement would be that :—

(*a*) A nurse would be easily procurable whenever required for a confinement or urgent case of illness.

(*b*) When required for a confinement in many cases it would be more convenient from point of view of accommodation for the patient to have a neighbour after the second day, and so free nurse for other work with a periodic visit to this patient until out of bed.

(*c*) These nurses would all be under one matron and could be moved on from village to village every few months. This would be a great advantage over a permanent district nurse.

(*d*) These nurses could act as paid child-welfare visitors—following up each child till a year old and forming in each village little infant consultations.

Disadvantages.—It would be rather more expensive to run than when all the nurses are in a central home, but this would be counteracted by grant from Local Authority to nursing association.

CHAPTER XLIV

SPECIAL STUDIES: IX.—A GROUP OF INDUSTRIAL VILLAGES

THE Vale of Leven was selected not because other suitable subjects could not be obtained, but because it is a convenient group of industrial workers who are somewhat segregated from city conditions.

Dr Thomas Lauder Thomson, in his succinct and pointed statement, stresses the leading features of this village group. At present the workers of this district are very largely engaged in war industries. It would be interesting to have some detailed cases to show how mothers and children are affected by the strain of machines, hours, meals, etc. But such cases it was not possible to obtain at the time. Day nurseries are being organised under the Ministry of Munitions, and these are relieving the strain on mothers and children.

SPECIAL REPORT ON CIRCUMSTANCES RELATING TO THE HEALTH OF MOTHERS AND CHILDREN IN THE DISTRICT KNOWN AS THE VALE OF LEVEN. By THOMAS LAUDER THOMSON, Esq., M.D., D.P.H., *County Medical Officer of Health, Dumbarton*

Description of District

The Vale of Leven, Dumbartonshire, is one of the large industrial centres in the county. It comprises the villages of Alexandria, Bonhill, Jamestown, and Balloch, but in reality is joined up by buildings. The inhabitants before the war were mostly occupied in textile printing and dyeing and in the large works known as the Argyll Motor Works. Since the war these latter works have been used for the production of material for the Government.

(a) *Approximate population of district*, 16,000.
(b) *Number of births per annum*, 380.
(c) *Number of deaths of children*:—

Under 1 year	37
From 1–2 years	9
,, 2–3 ,,	1
,, 3–4 ,,	1
,, 4–5 ,,	1

These are the figures for 1916.

(d) *Occupations of employed mothers and fathers, and an approximate idea as to the relative number of mothers employed pre-war and during war.*

It is extremely difficult to ascertain any correct figures in this connection. There is no doubt, however, that at the present time there are a larger number of mothers working at the munition works and in the United Turkey Red Works than previously. As mentioned in the introductory paragraph, these are the principal works in the district, but it must be noted that quite a number of the heads of families travel long distances to their work daily. A number of the fathers work in the shipyards in Dumbarton and Clydebank, or in the Singer Sewing Machine Company's works in Clydebank.

(e) *Medical or midwifery or nursing service available.*

There are at the present time four doctors resident in the locality, and two other doctors from the neighbouring village of Renton also attend patients in this locality.

There are approximately twenty midwives in the district. Certain of these hold certificates, but the larger proportion are qualified only by the length of time that they have practised midwifery.

There is a very efficient nursing association whose nurses render great service in the locality.

(f) *Number of confinement cases attended by doctor, or nurse, or midwife.*

322 notifications of births received in 1916.

Doctors attending alone	103
Midwives attending	124
Doctors and midwife	54
Not stated	41
	322

(g) *Number of deaths of mothers, or prolonged disablement, or puerperal fever, etc.*

It is practically impossible to give details under this heading. I can only say that there are very few cases of puerperal fever notified from this district. During last year one case was notified from a house in Balloch, where the housing condition was of the most satisfactory nature.

(h) *Sanitary condition of the individual households, including the number of rooms, the number of persons, the amount of overcrowding, the healthiness or unhealthiness of the site, and similar hygienic details.*

I find from the Census Returns that at the last census there were 330 houses of one room, 1843 houses of two rooms, 818 houses of three rooms, 206 houses of four rooms, 89 houses of five rooms, and 157 houses of over five rooms. As calculated from the Census Returns of 1911, there was on the average 4·508 persons per occupied house. I understand, within the last two months, that the police have taken a census and have ascertained that there has been a slight increase in the number of persons per occupied house in the area, the figures according to their statement being 4·85.

SPECIAL STUDIES: GROUP OF INDUSTRIAL VILLAGES

The problem of housing in the district is a somewhat serious one, the lack of houses for several years being somewhat acute. It stands to reason, therefore, that a number of the houses are no doubt crowded to their fullest capacity. Cases in which actual overcrowding has occurred are extremely rare, but it must be obvious that the sanitary officials are somewhat handicapped by the knowledge that by abating overcrowding in one direction it would probably create overcrowding in another.

The sanitary condition of the Vale of Leven is, on the whole, good. There is a water-carriage system ; but, except for a small portion of Alexandria to the north and the village of Balloch, there are no sewage works. The sewage is discharged direct into the River Leven. This fact has to a large extent prevented the introduction of the water-carriage system in the southern portion of the area, and there are still a very large number of privies and ashpits in this locality. These latter circumstances are unfortunate, especially in a time such as this, owing to great difficulty in obtaining labour for scavenging ; but, taking everything into consideration, the scavenging has been carried out in the most satisfactory manner.

As regards the healthiness of the site on which the villages are built, there is no doubt that, owing to the fact that they are situated in a valley, the area nearer the river is less healthy than it might be ; but it must be remembered that the River Leven, which is seven miles long from its source in Loch Lomond to its junction with the Clyde, is one of the quickest rivers in Scotland, and that there is no marshy ground which would cause dampness in the surrounding area.

(i) *Special difficulties encountered by the doctor, or nurse, or midwife, in dealing with confinements, or with young infants, or with children up to the age of five.*

There is one special difficulty which the medical practitioners have pointed out to me in dealing with confinements, and that is the prevalence of box-beds. It is exceptional to find a house of less than four apartments which has no box-bed. As regards children up to the age of five, the medical practitioners have pointed out to me that there is sometimes great difficulty in obtaining institutional treatment. There are no institutions nearer than the Royal Hospital for Sick Children in Glasgow, and the directors of that institution, while quite willing to admit cases requiring immediate attention, cannot admit cases requiring merely careful nursing without the patient going on a waiting list, which may mean weeks or months of delay. It has also been brought to my notice that there is often difficulty regarding the removal of patients to hospital, and very often the parents of the child cannot afford the expense of hiring an ambulance.

(j) *Special diseases affecting the children in the locality at each age up to five.*

Of the 49 cases in 1916 of deaths of children under five years of age, I find that from birth up to two, setting aside those cases of death associated with the birth of the child, the most common cause of death was enteritis, the next most common cause was pneumonia. There were only 3 deaths between two and five, 2 of these were enteritis and 1 was

meningitis ; this, I think, represents a fairly typical year as far as the causes of death were concerned. It is seldom that there are many deaths from infectious diseases. In 1916 the only deaths from infectious diseases were : whooping-cough, 1 ; tubercular peritonitis, 1 ; both occurred in children under one year of age.

(k) *Milk and general food-supply in the locality.*

The milk-supply in the Vale of Leven is almost entirely from farms in the immediate neighbourhood, distributed through the medium of the co-operative society, and, generally speaking, the supply is not only adequate but satisfactory.

As to the general food-supply, the co-operative society have by far the largest number of customers, and as far as my observations have gone the quality of the food-supply is excellent. I might add that very few animals are slaughtered in the district, most of the dead meat is brought from Glasgow, after having been inspected in the city slaughter-house.

(l) *Where possible, the economic condition of the family should be ascertained, wages, and other sources of income.*

It is not possible to enter into any details regarding the question of economic conditions or wages of individual families, these vary in a most extraordinary way. At the present time there is no doubt that a large majority of the inhabitants have ample means.

(m) *The prevalence of tuberculosis in any form should be carefully recorded, and an opinion stated as to possible causation, milk, housing, food, personal infection, etc., similarly with the sequelæ of measles, whooping-cough, etc.*

In 1913, 23 cases of pulmonary tuberculosis were notified from the district ; while in 1914, 44 cases came to my knowledge. Of these 67 cases, 20 cases were persons who might be classed as housewives, and the majority of these were mothers. During the same period 4 school-girls or school-boys were notified, and it is interesting to note that 2 school-teachers were notified in these two years. As regards other forms of tuberculosis, since the starting of notification of such diseases, 45 cases have been notified, 6 in 1914, 24 in 1915, and 15 in 1916.

From my observations as tuberculosis officer, I have come to the opinion that the housing conditions have a great deal to do with the prevalence of tuberculosis, especially of pulmonary tuberculosis. I find, for instance, that, taking the district referred to, over 50 per cent. of the cases notified reside in one- or two-apartment houses ; after that the numbers fall rapidly, and only a very small number are notified from houses of four or more apartments. Of course it must be remembered in this connection that the majority of houses in the Vale of Leven are either of one or two apartments. Calculating on the basis of the Census of 1911, and taking the number of cases 1912–1916 inclusive, the following shows the particulars as far as ascertained in relation to 120 of the cases notified. In these cases definite information was obtained.

	Number of Houses.	Number of Patients.	Percentage of Houses Attacked.
1 apartment . . .	330	14	4·2
2 apartments . . .	1943	70	3·7
3 „ . . .	818	30	3·6
4 „ . . .	206	5	2·4
5 „ . . .	89	1	1·1

Personal infection, especially in the smaller houses, is another factor which is of some importance, and there have been striking instances in the Bonhill parish of more than one member of the family being affected.

As regards the sequelæ of measles and whooping-cough, there is no doubt that it is commoner to find such after-symptoms occurring in the more overcrowded localities and amongst children whose vitality is lowered by their home surroundings. There is no doubt whatever that provision should be made for dealing with such cases in institutions. The average case of measles does not require to be removed; but where the patients are in overcrowded houses, removal to hospital might save many valuable lives. At the present time, in the district referred to, there is no accommodation for dealing with such cases. Cases of measles, etc., can only be removed to hospital if circumstances are of such a nature as to render removal imperative. These circumstances include cases occurring in children's convalescent homes or where the patient has for some reason or another no proper lodging or accommodation. It has been found necessary in some instances to send the patient to hospital outside the district, even as far away as Paisley, where circumstances of this kind arose.

As regards the supplementary questions which have been put to me:

(1) *Maternity benefit.*

Regarding maternity benefit under the Insurance Act, and the way in which this money is generally expended, I find a difference of opinion on this point in the district under review. In many instances, I am afraid, the money is not put to the use intended; but as far as I can gather, in the majority of instances no abuse is made of the money received.

(2) *Working women. What is general practice as to stopping work for a period before and after birth of child?*

As a general rule, I find that pregnant women who are working remain at work for six or seven months, when, as a rule, their condition makes it necessary for them to give up their work for a period; generally speaking, after birth of the child the mother will stay at home for six weeks. It must be understood, however, that these periods are not exact, and that variations in the time of remaining off work are to be found.

(3) *Where mothers go to the working, what are the arrangements for looking after their children in absence?*

There are no day nurseries or crèches in the area referred to, and, as a rule, mothers who have young children and who go out to work leave their

children with a neighbour or relative or, in some instances, if there is an older child, leave the infant in charge of that child at home.

(4) *Suitability of houses for confinements.*

I have previously made some remarks regarding the suitability of houses for confinements.

Houses of one or two apartments are eminently unsuitable. As a rule the accommodation of these houses is taxed to its utmost, and box-beds, as previously indicated, are to be found in the majority of such houses.

(5) *Regarding the general practice of breast-feeding or bottle-feeding, I can get no reliable details.*

In the case of mothers who have to go out to work at an early date, it is customary to feed the child on the bottle, and I can find no reliable statistics regarding the mortality in these two classes. After the appointment of the infant health visitor I have no doubt that very reliable information will be obtained regarding such points.

CHAPTER XLV

SPECIAL STUDIES: X.—A SMALL COUNTY IN THE MIDLAND VALLEY

Mrs Ethel Cassie, M.B., Ch.B., D.P.H., Interim County and Burgh Medical Officer of Health, Clackmannan, has furnished me with some specific notes of the conditions in this small county. Since those notes were prepared, the county and burghs have combined to form and administer a scheme of maternity and child welfare.

Notes on Conditions found in the County of Clackmannan and Burghs of Alloa, Alva, Tillicoultry, and Dollar. By Mrs Ethel Cassie, M.B., Ch.B., D.P.H.

	Number of Births, 1915.	Infant Mortality, 1915.
Clackmannan County	233	154
Alloa	278	158
Alva	86	151
Tillicoultry	55	181
Dollar	18	0

Medical Service

(1) *Number of Doctors*

	1914.	1916.	Population, Census 1911.
Clackmannan County	1	1	10,294
Alloa	7	5	11,893
Alva	2	2	4,332
Tillicoultry	2	2	3,105
Dollar	3	2	1,497
	15	12	31,121

In 1916 this gives one doctor to 2593 persons. The number of doctors is adequate for the needs of the district.

(2) *Midwives.*—The names of thirty women were sent in by the medical practitioners as practising midwifery in this district. Of these, three only are certificated, though others will doubtless be placed on the midwives roll.

Many are simply " handy women," and generally assist in household work as well as nursing the patient. In all but the poorest homes these women are employed in addition to a medical practitioner. In some cases where no such help is available, or where it is inadequate, the doctor obtains the assistance of the district nurse whose services are given free by the nursing associations. These women are, as a rule, trained nurses and hold a midwifery certificate. They attend no cases unless requested to do so by a medical practitioner. Similar assistance is available in Alloa, Tullibody, and Sauchie from the Parish Church nurses.

The certified midwives in Alloa, and the best of the uncertified midwives, have always attended a fairly large number of cases where no doctor is called in except for complicated and difficult cases.

Apart from help at confinement cases, the services of the medical practitioners and the district nurses are available for women and children at all times.

(3) *The County Accident Hospital.*—All classes of cases which cannot be treated adequately at home may be admitted for treatment at this hospital, except cases of pulmonary tuberculosis.

In practice, very few labour cases are admitted. Five were admitted in 1916, three being cases of eclampsia, one of albuminuria and dropsy, and the fifth a tramp. Four cases of abortion were also admitted.

There is accommodation for children. Ninety-five children were admitted in 1916, of whom thirty were under five years of age.

No other assistance is available in caring for the health of the mothers and children of this district at present.

NUMBER OF CONFINEMENT CASES ATTENDED BY DOCTORS AND MIDWIVES AS NOTIFIED IN 1916 (NOTIFICATION OF BIRTHS ACTS, 1907 AND 1915)

	Doctors' Cases.	Midwives' Cases	Not stated.	Total.
Clackmannan County . .	158	33	8	189
Alloa	123	120	28	271
Alva	34	..	35	69
Tillicoultry	59	..	..	59
Dollar	18	..	..	18

Information obtained from Midwives and District Nurses

(*a*) Women usually make their arrangements for attendance at their confinement about two or three months before the expected date.

(*b*) There is no difficulty in obtaining medical help when required before, during, or after the birth of the child.

(*c*) There is no large proportion of difficult labours.

(*d*) Mothers usually begin by nursing their babies, but a considerable number cease to do so within a few weeks.

(*e*) For bottle-fed babies the instructions given to the mothers by midwives are too indefinite, no time or amount being specified, and in a large proportion

of cases patent foods are recommended. The use of the long-tubed bottle is very general.

(*f*) The general opinion is that maternity benefit under the Insurance Act has proved most helpful, and it is not as a rule wasted, especially when given immediately. Where there is delay in obtaining the money, as with certain societies, it is more apt to be misapplied.

(*g*) The midwives' charges are from 10s. 6d. to 15s. per case.

Information obtained from Doctors

(*a*) The information obtained from midwives is confirmed.

(*b*) A predominating number of the midwifery cases are attended by medical practitioners, arrangements being made two to three months before birth, except in a small percentage of cases.

(*c*) The proportion of bottle-fed infants after the first month is considered to be as high as 50 per cent., especially among the upper class and the poorest class of cases.

(*d*) The beds available at the County Accident Hospital for maternity cases have been most useful, and more facilities in this respect would often be helpful.

(*e*) There is frequently regrettable delay in obtaining medical help for sick infants and young children.

Conclusions

The chief conditions militating against the health of the infant and young child are :—

(*a*) *Ignorance of the mother*, with little or no opportunity of obtaining information.

(*b*) *Bad housing conditions.*—There is a marked lack of housing accommodation for the working classes in this district, and what is available is often unsatisfactory.

(*c*) *Tendency to delay in obtaining medical advice* owing to monetary considerations, and there is often a difficulty for the same reason in continuing to obtain medical assistance.

Occupations in District

Men principally work in (*a*) mining, (*b*) the woollen industry, (*c*) agriculture, (*d*) brewing and distilling.

Women principally work in (*a*) the woollen industry, (*b*) domestic service.

An increasing number of married women are working at present. In the 1911 census the number recorded was 2·5 per cent. only.

CHAPTER XLVI

SPECIAL STUDIES: XI.—THE CAITHNESS TINKERS

1. *Deputation to Secretary for Scotland.*—In May, 1917, the Right Honourable Robert Munro, K.C., M.P., His Majesty's Secretary for Scotland, received a deputation of a committee representing the Central Committee for Advancing the Welfare of Tinkers and their Children. In his reply to the deputation, Mr Munro expressed his sympathy with their aims and undertook to consider carefully the proposal to set up a Departmental Committee. Earlier in the year, Mr George A. Mackay, Superintendent of Poor for the Highland District, under the Local Government Board, had given considerable attention to the peculiar position of the Caithness tinkers. In official reports he showed the immediate urgency of making some permanent provision for this particular group of people. The tinker population of Scotland is not great, but it is held together by traditions of its own. But the problem of the tinker mother and child, if a minor problem in numbers, is, in several localities, a problem of real difficulty. Mr Mackay has been good enough to prepare for me a short statement on the whole tinker problem of a special county. He is exceptionally qualified to speak on a topic like this; for he is able to concentrate on the special case many years' experience of Poor Law administration, keen social sympathy, and a wide knowledge of economic problems. At this crisis in the history of this little group of people, I am glad to put on record so intimate a study of facts.

A few years ago, Dr George Dick, County Medical Officer for Caithness, assured me that, in his medical inspection of tinker children, he practically never found certain lung conditions that were quite familiar in town children; but that, since the tinkers took to staying in towns, he found this condition supervening. Doubtless, the open-air life, the persistent activity, and the robustness developed in response to the daily hardship all tend to keep the lungs free from tuberculosis. At any rate, Dr Dick assured me that he never found any suspicion of tuberculosis among the open-air

tinker children. The numbers were certainly small, but the statement deserves recording. It is probable, however, that, as Mr Mackay suggests, the infantile death-rate, if we could discover it, would be relatively high. But even this conclusion I should hesitate to accept without very strong proof. The rural tinker is a different person from the town hawker. Over and over again, I have known children of the town hawker die from neglect or ill-treatment; but the town hawkers in the places I speak of were rarely, if ever, of gipsy origin or even of gipsy mixture. They had, it is true, a relatively segregated tradition of their own, but for the most part they were merely marginal cases of the ordinary town civilisation.

The excellent photograph (illustrations, p. v) of the Caithness tinkers was taken by Mr W. J. S. Macpherson, Inspector of Poor for Thurso. It is reproduced with his permission. In the faces there are to be traced several streaks of race, some very pronounced. But, as Mr Mackay suggests, probably the racial elements are getting "smoothed out" to a tenuity recognisable, if at all, only by experts.

REPORT ON THE CAITHNESS TINKERS. By Mr G. A. MACKAY, *Superintendent of Poor for the Highland District, under the Local Government Board for Scotland.*

(1) *Number and Origin.*—The Caithness tinkers number some 40 families, or about 200 persons—men, women, and children. The numbers fluctuate, as families from Caithness move to Ross-shire or Sutherland, or as families from these counties enter Caithness. There is undoubtedly kinship and affinity of habit among all the tinkers in the north of Scotland, including the few families to be found in Orkney and Shetland. The names are everywhere the same—M'Phee, Williamson, Newlands, and (rarely) M'Neill.

From conversation with the tinkers themselves, I am satisfied that they are of the same stock as the border and English gipsy clans. Every tinker I talked to was satisfied that his forbears came originally from the South, though none had any idea when. But I think the race has absorbed certain native elements in the north of Scotland. The infamous evictions of crofters, which were carried out by Highland landlords during the first half of the eighteenth century, drove a number of homeless crofters into the tinker ranks. The M'Phees, for example, are a sept of the clan Mackay. No clan was so utterly dispossessed of its heritage as were the Mackays, and this may account for the grafting of the name M'Phee on to the tinker stock. Many tinkers have been absorbed by the settled population, and quite a number of prosperous families are of tinker descent. They are not given to advertising this fact, which, however, is fairly evident from name, complexion, and other characteristics. But possession of the name M'Phee does not imply tinker descent. Tinkers originated from M'Phees, not M'Phees from tinkers.

In some families I have found evidence of a Highland intermixture;

Gaelic-speaking women having married into the tinker tribe and adopted their ways. No doubt the converse had taken place. But when a tinker woman married a crofter, keeper, or farmer, it is probable that she adopted her husband's settled habit of life.

So mixed is the tinker stock that it is difficult, if not impossible, to assign distinctive characteristics to the class as a whole. So far as my own observations go, I am unable to distinguish a group of tinker children from a group of native children in Caithness, provided both are cleaned and dressed alike. The adult tinker is certainly darker in complexion than the ordinary inhabitant of the district; but probably this swarthiness is due, primarily, to exposure to all weathers, and, secondly, to freedom from soap and water. I have observed very fair complexions in some of the children.

The tinkers have something in the nature of a distinct language. I am not sufficiently skilled in the science of languages to be able to determine the affinities of their vernacular; but I subjoin the phonetic equivalents of some of their words :—

language	cant	water	monticler
butter	smout	child	kunshen
bread	panem	man	cowl
tobacco	fluffan	woman	mort
meal	blaw	girl	dilly
milk	yearum	boy	giddie
house	kane	potatoes	neddies
cow	man	bed	kip
public-house	perankin		

The following two sentences are said to be in common use: "Sharnas, sharnas, e' Horney's sprawing e' kane"—"Run, the policeman is watching the house" (warning when begging). "Sharnas, sharnas, e' Horney's burgan"—"Run, the policeman is coming."

(2) *Distribution of the Tinkers in the North of Scotland.*—So far as I am aware, an accurate local census of the tinkers has been made only in the county of Caithness. Elsewhere such a task would be difficult on account of the migratory nature of the people. Nor would a census be accurate for more than a few days. From observation, I am satisfied that every one of the northern counties has its quota of tinkers. Shetland, probably, has half a dozen families who never quit the islands, and who manage to eke out a living by hawking and begging from crofters and fishermen. Orkney has probably not more than three or four families settled there, but it is visited periodically by the Caithness groups. Sutherland, probably, has no permanent tinker population. . . . Ross-shire and Inverness-shire have each a fairly large permanent population of tinkers. They are related to the community in Caithness, and there is considerable intercourse between them. I have also found a considerable number of tinkers in the Lews, but incline to the view that they are summer immigrants.

Caithness probably contains one-half of the total number of tinkers in the north of Scotland. The reason for this is not far to seek. Caithness is mainly an agricultural county. Neither its sporting nor sheep-rearing

potentialities were of sufficient value to cause its proprietors to resort to the wholesale clearances characteristic of Sutherland, Ross-shire, and Inverness. Moreover, at the time of the Highland clearances, rural economy in Caithness was inspired by a different spirit. Sir John Sinclair, first chairman of the Board of Agriculture, had demonstrated generally that agricultural prosperity was to be obtained by science and industry, and he set in motion the forces that have created the modern well-being of Caithness. Accordingly, while their neighbours were busy making a desert, the Caithness people were hard at work reclaiming, draining, and fencing waste land. As a result, many of the evicted refugees from Sutherlandshire found an asylum in Caithness. The tinkers, then as now, parasitic on the crofter population, necessarily emigrated with their hosts. Before the clearances, I have little doubt that Sutherland, by reason of its greater size and greater natural resources, contained more tinkers than Caithness. Caithness, therefore, has its original quota plus that of Sutherland, which county, though it may afford scope for a summer pilgrimage to such tinkers as are skilled in the snaring of game, is ill qualified to afford them continued sustenance.

I incline to think that the tinker class are diminishing in numbers. They are essentially parasitic on the smaller farming tenantry or the crofter class. All over Scotland, this class has been enormously reduced, and the tinkers have diminished proportionally. Some have emigrated; some, finding their way to large centres of industry, have drifted into steady employment; a few have become crofters—one large sheep-farmer in the north is said to be the grandson of a tinker. That the greater number remain in Caithness is simply a tribute to the greater agricultural prosperity of that county, and to the fact that the smallholder there has not been killed off.

(3) *Ways of Gaining a Living.*—To the outside observer this is a difficult problem. What perhaps makes its solution easier is the fact that the tinker does not gain a "living" as in the ordinary sense. He merely exists, and that with difficulty. Leanness is characteristic of both sexes; both men and women age rapidly, and few seem to survive to old age. The only Old-Age Pensioner I met in Thurso was a man whose mother belonged to Tummel in Perthshire—that is, she was not of tinker origin. She herself died in Halkirk Poorhouse at the great age of ninety-eight. But such exceptions only emphasise the general rule. The tinker's life is one of penury and hardship. He welcomes alcohol as a temporary refuge from a misery that haunts him. Incidentally, one regrettable characteristic of the tinker is that he makes a very bad "drunk." Some natures become genial and imaginative under the influence of alcohol: it seems to develop their finer side. Not so the tinker: he or she, when intoxicated, is invariably noisy and quarrelsome. I have seen this exemplified in the third generation of a reclaimed and prosperous tinker family.

It must also be remembered that, normally, the tinker pays no rent and no rates. His tent consists of a few rude lengths of sail-cloth. His bedding is straw with the addition of a none-too-clean blanket. His cooking utensils consist of a kettle and a frying-pan. He pays nothing for fuel. He poaches a good deal. He probably helps himself to potatoes and turnips if these cannot be had for the asking. His chief outlay is for tea, tobacco, sugar, bread, and whisky. Before the outbreak of war, I imagine that something

under 10s. a week represented the outlay necessary for the maintenance of a tinker family.

So little tinsmith work is now performed by the tinkers that the name "tinker" would appear to be an anachronism. But, as a matter of fact, it is only within the last twenty-five years that the tinker has ceased to be a tinsmith. In Caithness, so far as my inquiries show, only the older members of the tribe have now any knowledge of the tinsmith's art. Yet this undoubtedly was their original mainstay. They lost it, not through fault of their own, but because of the importatiom of cheap and (mostly) inferior tinware. The imported article was sold cheaper than the tinker could buy the raw material. So far as I am aware, the commercial interest of this class—among our earliest metal-workers—has not yet found a protagonist among the advocates of tariff reform. But it is unquestioned that the tinkers have greatly suffered through the loss of their characteristic industry. While it endured they were respectable and self-supporting, and none criticised their nomadic habits. When it fell, the tinkers became weirdless, and it became the duty of every respectable citizen to point the finger of scorn at them. Probably German competition had something to do with the importation of cheap and nasty tinware. Had any philanthropist with a capacity for industrial organisation—a capacity that few philanthropists possess—been able to organise the tinkers into a co-operative tinware industry, the whole problem might have been solved many years ago. I am informed that something of the kind exists in Leeds. A gipsy tribe there appears to have evolved a successful basket-making industry. The baskets are made at their headquarters during winter, and the nomadic instinct (if such really exists) is legitimately gratified by other members of the community touring the country in well-equipped caravans and disposing of their wares.

A few of the male tinkers have been horse-dealers (cowpers). This, from time immemorial, has been an industry of doubtful morality. But its members are generally in tolerable circumstances. Other tinkers have gone labouring among the farmers and crofters. That is to say, they are taken on for a few weeks at busy seasons. A complaint frequently made to me is that when so employed no farmer will give them a house. Others are hawkers or small pedlars. This last occupation engages many of the women, and some have obtained the dignity of a horse and cart for the carriage of their goods and meagre personal equipment. But stress of circumstances is modifying their character in many ways. Last week, for example, a tinker came into Thurso and rented a room for his wife and family, while he crossed to Orkney to seek employment from the naval authorities. But he had absolutely no furniture—not even a bed—to leave with his wife and children. I asked his daughter—a bright, strong girl of 14—whether she liked best living in a tent or in a house. "In a tent," she replied. And looking round the naked and squalid room, I sympathised with her. The amenities of tent-life hide somewhat the nakedness of the land.

About half the tinker families in Caithness are now being maintained by separation allowances—fathers, husbands, or brothers being in the Army. The other half are living by the uncertain means I have indicated; and, I think, I can safely affirm that their condition, especially that of the children, is far from satisfactory.

(4) *Attempts to Improve Condition of Tinkers.*—So far as I can ascertain, no serious effort has ever been made in Caithness to bring the tinkers within the ranks of ordinary wage-earners. They have formed a useful theme for public discussion. In fact, I think they have been rather cherished as a useful grievance. No attempt has been made to Christianise them—a remarkable phenomenon on the part of churches that annually spend many thousands on foreign missions. I should not care to affirm that no tinker in Caithness can read or write, but I can safely state that so far I have not met any who can. None of the children appear to be able to read or write. This is probably due to the spasmodic nature of their attendance in school.

The only record I can find of a tangible effort having been made to assist the tinkers is one small house built at Harpsdale over thirty years ago by Sir Tollemache Sinclair. This house (now ruinous) was intended for occupation by a tinker family, and had about an acre of ground attached to it. Nobody seems to know the history of the experiment.

In summer, the tinkers lived mostly in tents; in winter, a large proportion of them occupied caves on the coast. None of them appears ever to have attained to the dignity of a caravan. Even their tents were primitive affairs, and ill-calculated to afford comfort, protection from cold, or ventilation. The caves offered a much more comfortable and hygienic shelter; but, in recent years, the landlords of the adjoining parts of the coast have taken means to render some of the caves unapproachable.

Prior to the Education Act of 1908, no effort appears to have been made to secure education of the tinker children. Since the passing of that Act several prosecutions have taken place with a view to compelling the tinkers to remain stationary and to send their children to school during the winter months. Judging from the effect on the children, I should infer that these measures have been more specious than real; and this is precisely what one would expect in view of the fact that no houses were provided for the tinkers, nor were they afforded any means of livelihood such as would attach them to a definite locality.

Similarly, the efforts of the Society for Prevention of Cruelty to Children were, of necessity, fruitless, because the Society was unable to do anything to ameliorate the condition of the parents.

In fact, one may state shortly that every effort, whether national or local, to deal with the so-called tinker problem was—and is—doomed to failure unless the economic basis is first dealt with. That is to say, each tinker family must, in the first instance, be provided with a house and a definite means of livelihood. On that basis it is possible to build; without it, legislative, religious, or educational work must inevitably be wasted. To suggest such measures without facing the economic problem is simply to trifle with the question.

(5) *Why the Tinker Problem is Acute at the Present Time.*—The European war has drained the land of its young manhood. Though neglected hitherto by the country of their birth, the tinkers of military age were deemed worthy to fight for that country, and, under the law of conscription, were claimed for the Army. Some twenty-five men, husbands and fathers for the most part, thus became soldiers. Their wives were given the usual separation allowances; and, for the first time in their lives, are in possession of a settled

income. But, without the assistance of the men, the women and children were ill fitted to live in either caves or tents. This, to some extent, disproves the plea so often put forward by the opponents of progressive work among the tinkers, viz. that the nomadic habits of the tinkers are hereditary and ineradicable. For, if this were so, one would expect the women to show at least equal capacity with the men for this form of " home " life. But, as I have said, the women showed no aptness for life in tent or cave, and their condition became extremely wretched. The children, in especial, suffered acutely from the rigour of a Caithness winter. At this stage the Rev. G. A. Jeffrey, Baptist minister, Wick, became conscious of their physical needs through the visits he made to them in arranging for their separation allowances. He made numerous efforts to secure houses for them in the vicinity of Wick, but on every occasion his efforts were frustrated by the landlords or their factors. Of course, the excuse was always made that the real objectors were other tenants; but, in some instances at least, this excuse was fictitious, and the real reason was simply a callousness and indifference to suffering, approaching to positive cruelty. The majority of the tinkers were aggregated near Wick; but until the initial prejudice had, to some extent, broken down it was quite impossible to secure a room for a tinker in Wick, even although rent were paid in advance. As regards one estate in the neighbourhood, not only was house accommodation repeatedly refused, but several actions were raised in the local courts to have the tinkers interdicted from camping on waste ground (the bottom of a disused quarry) about a mile distant from the town. Where this proprietor expected the tinkers to live is not stated.

Fortunately, the town of Thurso possesses a good deal of old and untenanted property. The decay of the flagstone industry has caused a diminution of the population of Thurso, which accounts for the comparatively large number of vacant houses there. When the Inspector of Poor in Thurso became acquainted with the needs of the tinkers he at once set himself to find houses for them. Being sympathetically assisted by the local Inspector of Police, in a short time he found accommodation for eleven families. But he went very much further. He took upon himself the responsibility of acting as guide and mentor to them. He enlisted local sympathy, and set about supplying them with essential articles of household furniture. Above all, he set himself to influence their conduct in such a way that they would be unobjectionable as citizens. His work has met with a surprising measure of success. Since their lodgment in Thurso, the conduct of the tinkers has been in every way satisfactory. Their houses are clean, and they are endeavouring to save as much as they can out of their separation allowances to supply their needs in the way of furniture and utensils, and to provide clothing for their children.

H.M. Office of Woods and Forests, through their Caithness agent (Mr Donald Mackay, Solicitor, Thurso), also put in repair and gave to the tinkers for occupation a house on their property of Scotscalder. This house will accommodate four familes. Other houses will be available in Thurso as need arises.

(6) *Urgent Ameliorative Measures.*—A fact that had a marked effect in securing local sympathy and co-operation was the publication in the Press

of a letter from the Duke of Portland, proprietor of Berriedale in Caithness, expressing sympathy with the effort being made to secure housing for the tinkers and promising monetary assistance. It soon became apparent that, without more furniture, bedding, and domestic articles than the tinkers were able to purchase out of their savings, their life in houses would be accompanied by considerable privation. Further, the clothing of their children was not in every case of a nature that would allow the children to attend school without exposing them to ridicule, even if sufficient to afford protection from cold. The Duke of Portland, through his agent, Mr George King, Berriedale, offered a sum of £100 as the nucleus of a fund for this purpose. In order that the money might be spent with discretion, a small representative committee was appointed, the Inspector of Poor of Thurso being selected as secretary and treasurer. It is anticipated that the committee will have a permanent value in dealing with the future interests of the tinkers. Sums which had been paid into the Inspector of Thurso's hands by charitable persons were added to the funds of the committee. The committee, in granting assistance, will take every means to avoid pauperising or demoralising the character of the recipients of relief. The formation of this committee is a very definite step towards a solution of the question.

(7) *Ultimate Prospects of the Tinkers.*—So far, it has not been possible to deal with those families who are not in receipt of a separation allowance. This is very unsatisfactory. Also, on the expiry of the war, when separation allowances cease and the men return home, there is no assured means of livelihood for the ex-soldiers and their families. Unless definite provision is made, there is a probability that the assistance given to the families and the training and character given to the men will be wasted. These men, having no proper trade or vocation which they can exercise, will be forced to return to a nomadic life through sheer pressure of circumstances; and neither they nor their families will be so well qualified for such a life as they were previously.

Recognising this fact, the Local Government Board have addressed a communication to H.M. Office of Works asking that, of the available Crown lands in Caithness, some 200 acres be set apart for the purpose of forming small holdings of, say, 6 acres each for tinkers. This would afford the nucleus of a livelihood and a home until such time as the tinkers had been absorbed into the general population.

Notes on Individual Cases.

(1) Mrs A. B., living in one room, —— Street, Thurso, age 27. Husband a private in Army; has 3 children alive, 2 dead. Children fairly healthy, but unwashed. One girl with scalp-sores.

This woman is averse to returning to tent-life. Her parents were able to secure a house many years ago and have given up wandering. Mrs A. B. needs domestic education. She tries to keep her children and her house clean, but has no sense of method. She cannot read or write. Furniture of house very meagre; many necessary domestic utensils lacking. When rudimentary cooking and cleaning are finished, her only recreation is gossip. Mental appetite is there, but cannot be fed. A strong woman; children not of such good physique; husband no special occupation. House clean. Medical supervision necessary. Girl and boy at school.

(2) Mrs C. D. One-room house, beautifully clean. Is not a gipsy herself, but married one; husband in desertion; no children. Is doing what she can to teach her neighbours how to live in a house. They are quite good, she avers, if only drink is kept

away. Her mother, who lives with her, animadverted on her marriage with a gipsy. The answer suggests implicit faith in predestination: "What's the good o' speakin'? What is to be, maun be."

(3) Mrs E. F., occupying one room; age 34. Husband private in Army. Two children alive; four dead. (I have formed the opinion that tent-life causes a good deal of mortality among tinker children.) Mary (12) at school; baby, 16 months. Husband was a hawker and did odd work on farms. Had a house two winters ago. Mrs E. F. does not care for tent-life, and, if possible, would always live in house. The farmers who employed her husband would never give them a house. Seems a woman of clean instincts, but suffers from lack of training. Cannot read or write. Children healthy and well cared for.

(4) Mrs G. H., lives with (3); age 30; a clean, well-made woman; no children. Husband in desertion, medically unfit for Army; was a farm-worker, *i.e.* did odd jobs about farms when living in tent. She and her husband quarrelled. She ordered him off, and now wants him back. Does not wish to go back to tents. Would prefer a croft.

(5) Mrs I. J.; one room. Husband in Army. Five children, ages 13 to 4—oldest girl, 13, bright, clean, intelligent, and frank; answers questions readily and sensibly. Children all healthy. Has lived in a house before and prefers it to a tent. Husband had a number of occupations, viz. farm-labourer, whelk-gatherer, coal-carter. Industrious people. Probably would do well on a croft. House clean, with indications of comfort.

(6) K. L., short, thick-set man; age 70; has been about the locality for some years. Occupation, hawker. Intelligent and industrious. His mother was a Gaelic-speaking woman from Perthshire; lives now with his daughter (see (7)). Is of opinion that most tinkers would prefer to live in a house if they could get any settled means of earning a living. A small croft would suit well, and would afford the children plenty of freedom. Town life is not good for the tinkers. A fair amount of comfort in the house occupied by this man and his daughter. Has four sons in army. Wife out hawking.

(7) M. L., daughter of above, and living in same house; age 26. A well-made, good-looking young woman; baby, five months old; husband, J. L., in Army. Once before lived in a house, but was in a tent near Wick when removed to Thurso. Prefers to live in a house in winter, but likes a tent in summer. Will cheerfully adopt whatever course her husband thinks best. An intelligent young woman, but cannot read or write. No domestic training. Nurses baby by instinct. Excellent human material. Would not wish her children to grow up "tinkers."

(8) Mrs N. O.; one room; age 35. Husband (37) in Army; shown portrait of husband; fine-looking man of obvious Highland ancestry. Three children, aged 14, 4, and 7 months. Girl bright and intelligent, clean and well-dressed. She and her mother determined they will not go back to tent-life. House poorly furnished, but clean. Children well-cared for. Father a horse-dealer and hawker when at home. Girl at school, but cannot read or write.

(9) Mrs P. Q.; one room; mother and five children. This family arrived in Thurso yesterday and engaged a room. The father has gone to Orkney to seek work from the Admiralty. The mother and children are left without any of the essentials of settled life. No furniture, no bed, no dishes. Absolute squalor, but all healthy. Family promises well, and will be taken in hand by local committee.

(10) Mrs R. S. (38); one room. Husband (38) in Army. Five children, all healthy. Girl intelligent and likes school. Was in tent before, but prefers house. Father did intermittent work on farms; mother a hawker. Children looked after by friend in mother's absence (see (11)).

(11) Mrs T. U. (48); widow, childless. Gets a "bite of food" for looking after children of above; an intelligent woman, frail, with some trace of refinement. Was at school in youth; clean and tidy of person; is strongly of opinion that all the tinkers would settle down if they got a house and a bit of land. She herself was born in Wick; has done field work; her husband, when alive, was a genuine tinsmith.

Note.—The Departmental Committee referred to above has now been appointed. Mr Mackay is a member.

CHAPTER XLVII

SPECIAL STUDIES: XII.—A LARGE HIGHLAND COUNTY

Dr Roger MacNeill, County Medical Officer of Argyll, has furnished me with a statement of the difficulties of his large county in making provision for child welfare and maternity work. I am sorry that space forbids the full use of Dr MacNeill's statement; but the following extracts will give some hint of the special difficulties that confront the medical officer of a large county so much broken up by sea and mountain. In particular, Dr MacNeill comments on the nursing service, which, in this county, has attained to a very high level. He emphasises, too, the overlapping of authorities and the need for administrative consolidation, both local and central.

According to the Census of 1911, the area of the civil county of Argyll is 1,990,472 acres. The land, which is almost over the whole county intersected by mountain ranges, is on the west broken up into a large number of islands, and the coast of the mainland and larger islands into numerous lochs and bays. Within the county at the last census there were forty-one inhabited islands. From Glenfinan in the north to the Mull of Kintyre the county measures about 110 miles, and from the west of Tiree to the borders of Perthshire there is a distance of about 93 miles. By road, however, the distances are much longer owing to the numerous lochs or fiords which interrupt the communication. The district of Cowal, with its nine parishes, is separated from the rest of the county by Loch Fyne, an arm of the sea which runs in a northerly direction over 30 miles to within about 4 miles of the borders of Dumbartonshire. Loch Linnhe entirely separates the district of Ardnamurchan, with its three extensive parishes, from the rest of the mainland of Argyll. In the absence of railways, excepting in part of the district of Lorn, the means of communication is slow and sometimes hazardous.

The total population at the census (1911) was 69,063. Of this number, 22,483 resided in six burghs; 46,580 in county districts. Of this number, 15,756 inhabited the forty-one islands already mentioned, the population of the different islands ranging from 1 in Calve and 2 in Lunga to 3809 in Mull and 6274 in Islay. About 11,800 of the district population resided in about twenty villages on the coast, in localities long distances apart, the number of inhabitants varying from 168 in Toberonochy on the island of Luing, 175 in Lochgoilhead in Cowal, and 224 in Furnace, Loch Fyne, to 548, 741, and 805 in Portcharlotte, Port Ellen, and Bowmore in Islay, 956 in Ballachulish, 1098 in Ardrishaig, and 1589 in Tarbert. Excepting the summer residential villages of Cowal and the partly residential and partly fishing

villages of Ardrishaig and Tarbert, the inhabitants of almost all the coast villages on the mainland were employed in quarrying granite or slate; while in Islay the villagers, with the exception of the fishermen of Portnahaven and Portwemyss, were engaged in agricultural pursuits or the distillation of whisky. At the extreme north of the county, the industrial village of Kinlochleven, with a resident population of about 1500, has sprung into existence within recent years. About 34,000 of the population is more or less sparsely scattered on the low ground along the seashore or in the valleys between the mountains, and are mainly engaged in agricultural, pastoral, or sporting pursuits such as farmers, crofters, cottars, farm-labourers, craftsmen, ploughmen, shepherds, gamekeepers, deer-stalkers, etc., etc.

People so situated are not as a rule so progressive in their ideas or so aggressive in their bearing as dwellers in towns or other populous localities. The distances between different homesteads or between different localities, and the absence of easy means of communication renders co-operation difficult and tends to foster self-reliance and individualism, particularly among those who exercise a vocation which renders them independent of the direction, sometimes capricious, of an employer. The people are brought into closer contact with the primitive operations of Nature, and they spend more of their time battling with the elements and less in competing with and exploiting their brethren than town-dwellers. They realise more clearly that there are silent ever-acting forces at work which move to good, and they are more inclined to act in accordance with what they regard as the decrees of providence than to submit to rules and regulations devised by man. Many are not yet convinced that the prevention of poverty, ill-health, and disease, or the lengthening of human life, are matters over which man has really any control, and this may account, in part at least, for their apathy and slowness in welcoming remedial measures with enthusiasm.

Facilities for inter-communication within the county have not been so well developed as that between different parts of the county and the large towns. There is daily communication between Islay and Glasgow; but only once a week, even in peace time, between Islay and Mull, which island also is in daily communication with the large towns. The same is true in varying degrees of many other islands and of numerous localities on the mainland of Argyll. The difficulty of travelling, which in the past was even more marked than it is now, may explain, although I think not wholly, the large number of public bodies which have been created to administer the laws bearing on the health and well-being of the community. There are in this county thirty-nine Parish Councils, forty-five School Boards, seven District Committees, six Town Councils, a National Health Insurance Committee, a Tuberculosis Committee, a Secondary Education Committee, a District Board of Control, and a County Council. There are also two nursing associations, and it is now proposed to add thirteen Midwives' Local Supervising Authorities. All these public bodies are either independent the one of the other or very loosely held together, except in so far as some of them are more or less under the occasional and modified supervision of the County Council or of such central authorities as the Local Government Board, the Highlands and Islands Medical Service Board, the National Insurance Commissioners, the Scotch Education Department, the General

Board of Control, the Central Midwives Board, and Queen Victoria Jubilee Institute for Nurses.

Before the war there were in this county fifty-four medical practitioners, one Executive Tuberculosis and Assistant County Medical Officer, one Medical Inspector of Schools, and one County Medical Officer. The number is now reduced by fourteen, owing to the absence of some on military service, while others have resigned their appointments and gone elsewhere, leaving no substitutes. Their duties, including those of the School Medical Inspector and Executive Tuberculosis Officer, have either to be left undone or to be carried out so far as practicable by those remaining during their absence. Even before the war, the number of medical practitioners in this county were, in my opinion, not able to perform all the duties devolving on them with satisfaction owing to the wide extent of country over which the population is scattered and to the difficulty and expense of travelling. This, in some degree, has been remedied through grants made to general practitioners by the Highlands and Islands Medical Service Board to defray their travelling expenses as private or panel practitioners; but, so far as known to me, such grants are not meant to defray any travelling expenses incurred by a medical practitioner when acting as local Medical Officer of Health. These grants tend to intensify the overlapping of medical practices, as medical practitioners do not now hesitate to attend cases far beyond their own parish or district. Thus the private practice of a Poor Law medical officer may extend in all directions beyond his own parish; his panel practice may not be co-extensive with either his parish or private practice, nor any of them with the area over which he may be acting as local Medical Officer of Health. The area over which many doctors practise is so wide that it is hardly possible for them to devote any time to the prevention of disease, almost their whole attention being taken up with the cure of the sick. Even if a special maternity and child welfare area were fixed for a medical practitioner, he would hesitate to visit families in that area whose panel or family doctor happened to be a rival practitioner.

For communities such as those in the rural parts of this county a State or semi-State medical service should be provided, guided, controlled, and unified by one central department of the State either direct or through county councils or district committees. Each medical practitioner should have an assured and sufficient income, and neither the area nor population served by him should be too large. Under such conditions medical practitioners, if qualified in preventive medicine, would have time to visit their constituents, not necessarily when ill, and to advise them not only as to how to recover from disease, but—what is more important—as to how to keep themselves and their families in good health, as well as otherwise to assist the Local Authorities in any action which might from time to time be considered necessary with a view to raise the general standard of health of the community. Maternity and child welfare could then be undertaken by them without difficulty, assisted by so many nurses or health visitors as might be found necessary.

Nurses have been provided by the Argyll Nursing Association in twenty-nine districts, parishes, or burghs.

In 1915, nurses were also established by private individuals in eleven

places. The services of some of these nurses may have been discontinued since the outbreak of the war. Each of these nurses, whether affiliated with the Argyll Nursing Association or not, is under the control or supervision of a local committee or of an individual, and are entirely independent of the County Council and Local Authorities. The executive committee of the Argyll Nursing Association, however, resolved to allow their nurses to attend patients in their districts suffering from tuberculosis in consideration of the Tuberculosis Committee making payment of £4 per annum per nurse towards the funds of the Association.

For many localities nurses have not yet been provided. There is no resident nurse in any of the islands excepting Gigha, Islay, Mull, Luing, Lismore, and Tiree.

The number of births and the number of deaths under one year of age, and the infantile death-rate for the five years 1911–15, were as follows :—

District.	Number of Births.	Deaths under 1 year.	Infantile Death-rate.
Mid-Argyll . . .	514	22	42·8
Cowal	565	31	54·8
Kintyre	628	33	52·5
Lorn	926	45	48·5
Mull	377	12	31·8
Ardnamurchan . .	213	8	37·5
Islay	566	32	56·5
	3789	183	48·2

It will be observed that the highest mean infantile death-rate in any of the districts for the past five years was 56·5 per thousand of the children born in the district of Islay, the mean for the whole county (rural) being 48·2. This compares very favourably with other parts of Scotland. For the three years, 1912–14, the average infantile death-rate in the large towns was 123, in the small towns 104, while in the county districts the average was 90.

Of 694 births notified to 31st December 1916, 30 were stillborn, being at the rate of 4·3 per cent. In the districts the percentages of stillbirths were as follows :—Mid-Argyll, 4·0 ; Cowal, 6·1 ; Kintyre, 3·9 ; Lorn, 5·3 ; Mull, 4·7 ; Islay, 3·0 ; while in Ardnamurchan, of the 30 births notified, none were stillborn.

With such a low infantile death-rate, one feels some hesitation in suggesting any action which might possibly have a detrimental effect on the existing state of things so far as the rearing of infants under one year old is concerned.

A maternity and child welfare scheme must, however, provide for medical advice and treatment when necessary for mothers, including expectant mothers, as well as for advice and guidance as to the healthy rearing of children up to school age, whether ailing or not. This might possibly be done in this county by the employment of the district nurses, where they are available, as health visitors, to act in co-operation with medical men practising in their districts, as well as with Medical Officers of Health. Under such con-

ditions some of the existing nursing districts are too wide for one nurse. Additional nurses would have to be appointed for these as well as for districts where none are now. This might enable the district nurses to overtake the duties of health visitors, as well as school and tuberculosis nursing in addition to their ordinary duties. To qualify them for these duties it would, however, be desirable that they should receive some training in maternity, infant rearing, and management, and the elements of hygiene. Provision would require to be made for the payment of such annual contribution to the funds of the nursing associations as might be agreed upon in respect of the duties discharged by their nurses.

The Medical Officer of Health or his assistant, by the visitation from time to time of the area under his administration and conferring with doctors, midwives, and health visitors, and by transmitting to them information coming to his knowledge through the notification of births and of cases of infectious disease and otherwise, as well as by compiling and issuing leaflets bearing on the health and well-being of mothers and children, and by assisting in making arrangements for the treatment of special cases, might co-operate with these local officials in the discharge of their duties, and thus help to get the work carried out so far as practicable with equal efficiency in different districts, parishes, and islands.

The health visitors might receive information regarding expectant mothers, and other cases requiring attention from the resident doctors, midwives, and other local sources; while they, on the other hand, would intimate any case of a mother or child requiring medical attention to the family doctor. Provision would also require to be made for the remuneration of medical practitioners and Medical Officers of Health for the duties performed by them under the scheme.

. . . . . .

Would it not be desirable if maternity and child welfare were taken up, at least so far as the Highlands and Islands are concerned, not as an isolated subject but in relation to the question of the reorganisation of the whole public health service? It appears to me that, with a view to prevent overlapping and consequent waste of energy, as well as for efficiency and economy, the unification or consolidation of the various authorities—boards, commissions, departments, councils, committees, etc., etc., both central and local—is urgently necessary.

The medical inspection and treatment of children of school age should not be divorced from the work of the Local Authority any more than the welfare of children under school age, and if the same public health department dealt with these and with maternity welfare, supervision of midwives, treatment of venereal diseases, as well as tuberculosis and other infectious diseases, I think there would be less overlapping and waste of energy, fewer officers would be required, and a considerable saving in travelling expenses would be effected, as the same officer during the visitation of a district might inquire into a number of matters which would otherwise require a separate visit by another official. It would also probably do away with the overlapping of authorities and red tape which at present exist in connection with securing treatment for cases of tuberculosis, in particular those insured.

CHAPTER XLVIII

SPECIAL STUDIES: XIII.—SOME MINING DISTRICTS

1. *Housing.*—To obtain first-hand information of typical mining districts, Miss Ireland, through the courtesy of Dr John T. Wilson, County Medical Officer of Health, visited the districts of Blantyre, Bellshill, Mossend, and Larkhall. In each locality she was accompanied by one of the nurse health visitors on the staff of the Middle Ward District Committee. Each nurse selected a group of families where she knew there were young children. Subject to this limitation, the selection was a random selection. In all, Miss Ireland visited thirty-six families. The families varied from two to twenty-three members. As a rule, the fathers were employed in connection with mines, some on the railway. The nationalities represented included Poles (probably Lithuanians) Irish, English, and Americans. The families were housed as follows: in one-room houses without scullery, 8; one-room houses with scullery, 10; in two-room houses without scullery, 14; in two-room houses with scullery, 3; in three-room houses, 1—total, 36. Some of the houses were extremely damp. In one case, the linoleum had to be lifted owing to its rotting and the wallpaper was peeling off the walls. In another case, the young children sat on the floor under the clothes hanging on the clothes rope. In some cases the rooms were obviously too small for the families; in others, even the "single ends" were passably commodious for such houses. In two cases iron bedsteads were seen. In all others the beds were wooden beds in recesses. As a rule, the babies sleep with the mothers. In one house there were four beds (eleven inmates); in most of the others there were only two beds.

Of the condition of the mothers, Miss Ireland reports: "Most of the mothers appear to be in a poor state of health."

Miss Ireland further reports that she was greatly struck with the intimate knowledge the nurses possessed as to the localities and the families. Their relations with individual mothers were of the pleasantest nature. The mothers seemed anxious to have their advice and invited them to come again. It is obvious that all three

visiting nurses have the complete confidence of the communities in which they work.

The subjoined notes of individual families are selected from the long series prepared by Miss Ireland. Many details are necessarily omitted. The notes are selected to show the conditions in representative mining areas. It should be added that, among the whole thirty-six families, there were very few "poor" families. To speak generally, therefore, the conditions, where unsatisfactory, cannot be ascribed to poverty. The whole problem of housing in the mining areas is dealt with in the Report of the Housing Commission.

Excerpts from Notes of Visits in Three Mining Areas of Lanarkshire, by Miss Bertram Ireland

(*Note.*—Each series of families belongs to a distinct area.)

First Series of Families

(1) There have been nine children here, of whom three have died: one at 13 hours, another at 4½ hours, and the third was stillborn. The mother stated that the cord had decayed in all three cases. At all the births a medical man was in attendance; the mother received maternity benefit in each case.

The baby, 4 months old, weighs 17 lbs. (with clothes). He is being breast-fed. As mother is to be operated upon, this is to be stopped. The other living children had all been breast-fed till the age of 15 months. The father forbids the use of a dummy teat.

(2) There are five living children of this marriage, the eldest being 7 years of age; the first child was stillborn. Doctor was in attendance at the birth of the last child, now 5 months old. The infant is being breast-fed and weighs 18 lbs. (with clothes). He looks rather pale. The father objects to the use of a dummy teat.

(3) Parents aged 34. They have been married for nine years, and have three children, the youngest being 7 weeks old.

The infant is being breast-fed, and has no dummy teat. Since he was 4 days old he has been taken into the open air, and at 4 months of age he weighs 14 lbs. Doctor attended at the birth. The two older children, 8 years and 5 years, were breast-fed for nine months, and then were given oat flour porridge. Now the family lives on soup, meat, milk, and other "good food."

Father is one of the managers in a coal mine, and mother at present is not very strong, and is suffering from varicose veins in her right leg.

The family lives in a detached stone-and-lime cottage of three rooms, belonging to the coal company. There is a small garden round the house. The kitchen was very bright and clean and had sash window. Oilcloth was on the floor. The baby lies in a perambulator by day, and in the kitchen recess-bed with its parents by night. There is another bed in the bedroom.

(4) There are seven living children of this marriage. One child died (marasmus) at 6 months of age. The baby is 5 months of age and weighs 11 lbs. She has been and still is very weakly and anæmic. Mother was unable to breast-feed this child, as she had no milk. Baby therefore is being brought up on a bottle (approved) with special food. The official visiting nurse advised rubbing the child with cod-liver oil, but this has had very little good effect. A local handywoman attended at the birth.

Of the older children, the first was breast-fed for two months, the second for about six months, and the others were entirely breast-fed. Mother stated that no one in her house would eat porridge.

(5) There are six children in this family. One child died as the result of measles and congestion at the age of 2 years and 2 months. The present baby is 6 months of age, and is being breast-fed. She weighs 20 lbs. Porridge is included in the diet of this family.

We met the mother in the street, so were not inside her house. She remarked, " But they're no houses to live in at all."

(6) Father aged 38 and mother aged 34. They have been married for fifteen years and have nine living children (seven girls, two boys). One child died of meningitis at the age of 13 months.

The present baby (about whose name we were consulted) is 2 weeks old, and is being breast-fed. Mother said that the " weans cried to me to get up," so she rose on the fourth day after the last baby was born. The child looks very healthy. The previous children were each breast-fed for about twelve months, and then were given " anything " to eat. They got their teeth early. Mother stated that their diet now included saps, barley, semolina, soup, steamed puddings, etc.

Mother is a cleanly, clever, hard-working woman. The children's clothes are almost entirely made by herself. She makes underclothing from sugar bags, etc. A complaint of hers is that there is no safe common playground for the children of the locality. She does not allow her children to be on the public road, and is fortunate in having a small garden at the back of the house. The only vacant piece of ground near her house is used as a football ground by the younger men " morning, afternoon, and evening."

There are eleven inmates of the house. Total income about £5 a week.

The house, two ground-flat rooms situated on the main thoroughfare, is entered from a close. There is a sash window in each room. The kitchen floor is covered with linoleum. There are two recess beds in the kitchen and one recess and one iron bed in the " room." Everything looked particularly clean. At the time of visit mother was seated by the fire peeling a large basinful of potatoes for 3 o'clock dinner.

(7) Parents' first child, 5 weeks old. The baby is being breast-fed, but the neighbours stated that this is not done at regular intervals, and the child was certainly very fretful when we saw him. He weighs 11½ lbs., and has been taken outside occasionally. A trained midwife attended at the birth.

Mother looked very anæmic and thin, and the nurse advised her to try to stop overfeeding the baby. When we called, mother was carrying coals in a pail from the bottom of two stairs to her house at the top.

We were not inside the house, but understand that it is a single apartment with one window and one recess bed.

(8) Father 32, mother 30. They have been married for six years and have four living children. One child died, aged 1 year 6 months, while ill with measles. The eldest daughter, 7 years of age, is in one of the county sanatoria on account of tuberculous glands.

The present baby, aged 1 month, is being breast-fed and weighs 11 lbs. The older children were breast-fed for nine months. When that was stopped they were given bread and milk and oat flour, and now they take oatmeal porridge, etc. A medical man and a handywoman attended at the last birth. Mother to undergo an operation.

The house consists of one room, reached by means of one long flight of stone steps and one short flight of wooden steps. All coals and water have to be carried upstairs. The room or kitchen has two recess beds and one iron bed. The latter was recommended by the doctor. Mother stated that "it is not so smelly as the box-beds. The children won't sleep in any other." The kitchen walls have been recently repapered. There was linoleum and a rug on the floor, and the sash window was open for a few inches.

Mother, though ill, is trying very hard to do her utmost for her family. Washing clothes for the infant is a great problem, as all water has to be carried upstairs, and the actual washing has to be done beside the children in the kitchen.

(9) There are two children in this family, one aged 17 months and the baby aged 2 weeks. She weighs 10½ lbs. Mother has been feeding the baby partly on the breast and partly on an approved bottle. She thinks that she is losing strength herself owing to the breast-feeding; but objects to the wet condition of the baby, which she thinks is a result of bottle-feeding. Doctor attended at the birth.

Mother keeps her house very clean and orderly, and cooks porridge, soup, and pudding, etc., for the family.

The house is one of a good row of one-flatted dwellings. It is entered directly from the street. There are two rooms—the front one having two recess beds (without curtains), a cradle, oilcloth on the floor, and some good furniture. This room has gas laid on and a large grate. The smaller apartment has also a grate and a sink.

(10) In this family are three children, aged respectively 4 years, 2 years, and 18 weeks. The baby is being breast-fed. He has no dummy teat. A midwife attended at the birth.

Mother stated that she cooked porridge, soups, puddings, potatoes, etc., for her family.

The house, seen from the outside only, is one of two apartments in a good two-flatted block of tenements. Water is laid on; there is an inside lavatory. In the kitchen, where the window was open, are two recess beds. There is a small garden attached to the block. The yearly rent is £14.

(11) Father, 25; mother, 26; one child, 4 months of age. Some little time ago they adopted a girl of 4 years of age. The baby is being fed from approved bottle as mother has had no breast-milk. He is taken out every day, and looks a healthy, strong child. Doctor attended at the birth.

The dwelling consists of two rooms and a scullery in a good tenement block of twelve houses. Water and gas are laid on. The scullery has a

sink. The kitchen is fitted with a grate, pulleys, two recess beds, etc. There is a difference in height of two steps between the kitchen and the room.

Second Series of Families

(1) The family here consists of four boys, aged respectively 11 years, 8 years, 5 years, and 7 months, and one girl aged 7 years. One child, the first-born, died when 9 months of age from bronchitis.

The present baby, 7 months, is not a strong-looking child. For six months he was breast-fed. Later he was fed on condensed milk from an approved or a gill bottle with a short teat. He now has four teeth, and is said to be taken outside from time to time. He sleeps in a cradle. A midwide was in attendance at his birth.

Mother at present is in a very poor state of health. She says she is unable to eat anything. At the time of visit a neighbour was in the house. She was a very kindly woman and offered to do all in her power to assist, but, on account of infirmities, it is difficult for her either to understand or to be understood. Mother stated that she cooked porridge and soup, etc., for the family.

Doctor has recommended her to go to a hospital in order to undergo an operation, but she says that she finds it impossible to make suitable arrangements for her husband and family, and the lodger during her absence.

Including the lodger, there are eight inmates of the dwelling, which consists of two rooms on the upper flat of a double-storey tenement. The kitchen is nicely furnished, and has linoleum on the floor. Below the sash window is a sink (water). Overhead is a clothes' pulley. In the kitchen are two recess beds, and in the smaller room is one.

(2) There are six living children of this marriage and three have died. The cause of death was said to be the same in all three cases—whooping-cough and pneumonia. The ages of the dead children were respectively 19 months, 5 weeks, and 10 months. The youngest children are twins, aged 10 weeks. They are being partly breast-fed and partly bottle-fed with cow's milk. Mother did not feel able to breast-feed both infants. A midwife assisted at the birth.

(3) There are six living children of this marriage, the eldest is 10 years of age. One child died when 3 days old (inflammation of the bowels). The present baby is aged 9 months. She is being breast-fed, although mother has very little milk. The child is puny and fretful ; she sucks a dummy teat. She has two teeth, and is taken out frequently. The children seen (three) were very dirty, unkempt, and undernourished.

(4) There are four children of this marriage. The present baby was prematurely born. She is now aged 3 months and weighs 9½ lbs. Mother has not been able to breast-feed the infant. She was fed with " Cow and Gate " at first ; but now gets Glaxo from a gill bottle (with short teat). She sometimes is given a dummy teat. A midwife was in attendance at the birth.

Mother informed us that her husband and herself were very anxious to remove into a better house. One reason for this is that the noise of the running water in the outside pipes is so loud that husband " never gets a

sleep" ; another is that there is no storage room for coal, this being kept under upturned boxes and under the bed.

The baby sleeps in a cradle. For the rest of the family there is one recess bed. House in bad repair, but very clean.

(5) There have been twenty-one children of this marriage ; thirteen are living and seven have died. A girl of 8 years, and three children of 5 years, 7 years, and 11 months died from tuberculosis of lungs ; a child of 10 months died while suffering from jaundice ; there were two stillbirths (full term). There are five years of difference between the ages of the baby and the next child. Baby is 7 months old, and is being breast-fed, as were all the older children. A medical man was in attendance at the last birth. Baby looks quite healthy, but has no teeth yet. Porridge is cooked twice a day for the family.

(6) Mother has been twice married, and has had eight of a family. Two have died—one, the eldest child, when 14 years of age, and in domestic service ; the other was stillborn, owing to mother having received a shock. The present baby is aged 3 months. She is being breast-fed. The older children were breast-fed until 18 months of age. They have all been allowed to use dummy teats. Baby has been taken out of doors since she was two weeks old. A midwife attended at this birth.

(7) and (8) There have been five children in this family, but one—a twin—was stillborn. The surviving twin is aged 2 years 1 month. She is still partly breast-fed. She walked when 16 months of age, and got her teeth at an early age. A doctor and midwife attended at the birth. Porridge and soup are included in this family's diet. The house is one in a miners' row. It consists of one apartment in which are two recess beds and one crib. There is no water in the house, and no kind of pavement outside the house. Boarded in this house we saw a baby, 9 months old, whose mother was dead. The child was threatened with spinal curvature, and had already lost the sight of one eye. As his mother had been taken to hospital when he was three weeks old, he had been fed from a bottle with cow's milk. For the last two months he had had special food and appeared to be thriving. He was said to have been very stout when born. (He has since died.) A midwife was in attendance at his birth.

The child's father and mother came from Poland, and have had six children. Three of these were dead at the time of visit ; the causes of death stated were scarlet fever and whooping-cough.

(9) There are four children living with their parents here. Two children have died—one, a boy of 9 years, died in hospital where he was taken when suffering from appendicitis ; the other, a girl of 15 months, died owing to intestinal catarrh. The present baby, 10 months old, is being breast-fed. His weight is 11½ lbs. He is taken out frequently, and has two teeth. He has been rather delicate but is now improving. Mother said that she never had had a doctor in attendance at her confinements.

(10) There are five children in this family, the youngest being twins, aged 2 years. The boy twin was breast-fed for sixteen months, and can now walk. The girl twin was fed on cow's milk and condensed milk, first from a long-tubed bottle then from a short-tubed bottle, and cannot walk. Both have teeth. A midwife attended at the birth. A doctor was sum-

moned, but he arrived after the birth took place. The boy of 4 years appears to be tubercular.

Mother now looks tubercular and complains of a painful side. She stated that she " can't eat anything, but that if the children are satisfied it does not matter " about her. Porridge and soup are cooked for the family. At the time of visit the girl twin, dressed in only a woollen vest, was seated on the fire-step with a cup of tea in one hand and a crust in the other.

The house is one of two rooms in a miners' row of similar dwellings. There are three recess beds ; the baby's cot is lined with straw.

(11) There are two children here ; one aged 22 months, and the baby aged 8 weeks. The baby is being breast-fed. The other was breast-fed for eleven months, then was given approved food, egg, milk, and brown bread, etc. At the time of visit the baby had a heavy cold, and was suffering with sore eyes. The district nurse did not think it was ophthalmia. A midwife was in attendance at the second birth, a doctor attended at the first.

(12) At present mother is in a sanatorium ; father and his two surviving children are living with friends. The younger child is aged 6 months. At first he was breast-fed, now he is fed on cow's milk from an approved bottle. A midwife was in attendance at birth. Two children have died—one from catarrh when 10 months old ; the other from convulsions when 7 weeks old.

Third Series of Families

(1) This family consists of a father aged 28, a mother aged 27, and a baby boy 16 months. The mother is thin, but seemed to be very content, and said that the house, although small, pleased her. The baby is the first child and looks sturdy. A doctor and a midwife were in attendance at his birth. He was suffering from slight bronchitis at the time of visit. For twelve months he was breast-fed, then was given oat flour, milk, tea, etc. At 13 months of age he was walking, and now he has all his baby teeth. He is frequently taken out of doors.

The house consists of a single room and scullery on the ground flat of a row of tenements. Entrance is gained by a back court. The room was very clean and bright ; a good fire was burning. The floor was covered with oilcloth, and there were two recess beds and the baby's cot. The kitchen, being at a corner, had two windows. The weekly rent is 3s. 6d. The lavatory and washhouse are outside, six families sharing one washhouse.

(2) This family consists of twin boys, aged 15 months. The babies are said to have been very delicate, one remains rather puny and fretful. The other has been, and still is, breast-fed. The one was breast-fed for eleven months, and now gets an approved bottle with lactogen. He has been tried with cow's milk, condensed milk, albumen water, barley water, and lactogen. They have six teeth each, and are attempting to walk. A doctor and midwife were in attendance at the birth. It was stated that one used to like a dummy teat, but does not do so now. The twins are outside frequently.

Their house consists of one room and scullery (with sink) on the ground flat of a row of tenements. The room (or kitchen) was clean and well-furnished, and the floor was covered with linoleum. There were two recess beds and the twins' cot in the room.

(3) An illegitimate child, aged 13 months. As the mother returned to work immediately after the birth, the child has been brought up on a bottle, but now gets porridge. She looks rather puny and unhealthy, probably because she is seldom in the open air. She is beginning to walk, and has several teeth. A doctor and a handywoman attended the birth.

(4) There are two living children of this marriage. One child died at the age of 3 weeks, and the mother has had one miscarriage. The present baby is 16 months old. As the mother developed childbed fever, he was fed from a bottle. He now gets milk and barley water, bread and milk, etc. He is not yet walking, and sits outside most of the day in a perambulator. At present he is suffering from eczema, and an abscess on one of his eyes. A doctor and midwife were in attendance at the birth.

(5) The baby, aged 13 months, is a first child. For six weeks she was breast-fed. Then mother developed sore breasts, and baby was fed from bottle with condensed milk. She has no dummy teat. At 8 months of age she had eight teeth, and at 11 months she was walking. Now she is a very fat, heavy-looking child, but is said to be quite healthy and strong.

(6) There are four living children of this marriage; four have died; and mother has had one miscarriage owing to hard work. The living children are aged respectively 16 years, 13 years, 4 years, and (twins) 15 months. The children that died were aged respectively 2 years, 9 months, 9 months, and 1 month; and the causes of death (as given by mother) were scarlet fever, convulsions, decline, and prematurity. The twins, boy and girl, were breast-fed for three months, then it was thought that they were not thriving owing to mother's not having sufficient milk, and they were given barley water and milk from long-tubed bottles. They do not look very sturdy or healthy, but this may be due to lack of fresh air. They are learning to walk, and each has several teeth. A doctor and handywoman attended at the birth.

The house consists of a kitchen and a room (both very small) on the first flat of a row of tenements. In the kitchen are two recess beds and the babies' cot. At the time of visit a boy, aged 13, was in bed with a very bad cold. Each apartment is lighted by means of one sash window; in the kitchen is a sink with water. There is also a gas supply in the house.

Mother stated that, as she had to wash garments every day, she does this in the lobby between the house door and the kitchen. She can get hot water from the washing-house at almost any time. She remarked, "Oh, it's a throughother house."

(7) There are four living children of this marriage. They are aged respectively 6 years, 4 years, 17 months, and 4 months. The boy, aged 17 months, was breast-fed for three months, and was then fed on barley water and milk from bottle. After that he got "the turn of the house." Mother stated that she had not sufficient milk to continue breast-feeding. At the age of 1 year baby weighed 11 lbs.; he now weighs 18 lbs. A handywoman attended at the birth. The baby is not thriving well, and is suffering from whooping-cough. The nurse scarcely expected to see it alive on her visit.

Mother is aged 37 years, but looks much older, as she is very thin and haggard. Her teeth and gums are in a very bad condition. Her house was

well kept, but nurse said that she is having a "great struggle," and that she appears to have "lost heart."

The house consists of a kitchen and scullery (with sink) in a miners' row, end-on to the thoroughfare. The kitchen is lighted by means of two sash windows. The stone floor is uncovered. In the kitchen are two recess beds. At the time of visit we met mother on her way to a shop. When we entered the house, the baby was lying in one of the beds. A wooden plank was placed along the front of the bed to keep the child from rolling over the edge. The older child, 17 months, was in a low cradle, and as he could scramble out, the cradle was barricaded between a chair, a perambulator, and the kitchen grate. We were told that in spite of this he had already fallen on to the floor. The child of 4 years was seated on a chair at the fireside; and the child of 6 years was seated on the hearthstone. All were silent.

(8) Husband lives here with his mother, who looks after the children aged 4 years, 2½ years, and 1 year respectively. His wife died when the baby was about 3 weeks old. A handywoman attended at the birth. The baby was breast-fed for two weeks, and was then given almost any kind of food through a short-teat bottle. Now he gets only milk diet. He is a white-faced, thin child, but said to be sturdy. He is occasionally out of doors, and has a few of his teeth. At the time of visit the three children were seated on a piece of sacking spread on the bare stone floor, while wet clothes, hung on a string stretched across the room, were touching their heads. They were all coughing, and were insufficiently clothed.

(9) In this family, five living children. Four have died of pneumonia, one being the twin sister of the present baby aged 16 months. Baby was brought up on a short-teat bottle. He now takes porridge. He is a delicate baby, cannot walk yet, but has eight teeth. A doctor and handywoman were in attendance at his birth.

(10) Here there are eight living children with their parents. One child, aged 3 years, died from inflammation of the bowels. Mother had one miscarriage after being violently sick. The baby, aged 13 months, has been brought up on cow's milk given in a short-teat bottle. Mother stated that she had not sufficient breast-milk to enable her to feed the baby. Now baby gets some solid food, including saps. He has four teeth, and weighs 14 lbs. He is a delicate baby, has had catarrh, and cannot yet walk. A handywoman attended at the birth.

(11) There are four living children in this family. Two have died; one aged 14 months (blood-poisoning), and the other aged 2½ years (pneumonia). The baby is 13 months old. For six months she was breast-fed. Mother has never used a bottle for any of her children. The baby has been ill with pneumonia, and nurse gave albumen water, which had good results. A certified midwife attended at the birth.

(12) This couple, recently married, have only one child. She is 13 months old, and has been fed on barley water from an approved bottle. Mother was unable to breast-feed the infant, as, for three weeks after the birth, she was very ill and suffered from sore breasts. Baby is trying to walk, has one tooth, and is frequently out of doors. A doctor and a "good handywoman" attended at the birth.

(13) This is a widow with four living children. One child, aged 6 months, died of meningitis. The present baby, aged 16 months, was breast-fed until a month ago. Now she is given milk, toast, and tea. She can walk, and has several teeth. An untrained midwife attended at the birth.

2. *General Conclusions.*—The notes of inspection included details of occupation, wages, ages of parents, housing, and general sanitation. But I have restricted the items selected to those that bear on the health of the mothers and children. The cases look like a repetition of one another; but, on more minute scrutiny, each presents its little special problem. It is the exception to find a family with mother and children where everything is quite satisfactory. The proportion of ailments is very great. The need for help and care is unmistakable. The children are born under a very heavy handicap, largely due to the poor provision of house-room. Over and over again the notes record that the mothers expressed their discontent with the houses. It has been said to me by many responsible people that large numbers of persons connected with mines, either as miners or as labourers, prefer to live in these small and incommodious houses. But the statements are largely hearsay and are not in conformity with our direct experience. You can never go far among those badly paved, badly situated, meanly built, and monotonous rows without finding emphatic expressions of discontent. Among the meaner houses of the thirty-six specially inspected for this Report, discontent was universal.

A large proportion of the mothers suffered from bad teeth. In this, the mothers in the mining areas are like industrial mothers elsewhere. In general, the men and women of the mining areas are robust, capable people. But the above random selection proves that they suffer from many preventable ailments and handicaps. This single inspection is enough to show that, so far, those mining communities have failed to make adequate provision for the healthy upbringing of children in the early stages of life. This is not due to poverty; because, with a few exceptions, the wages are good. The causes of failure lie deeper, and there is no single remedy; but, if the workers in the great staple trades—coal, iron, and steel—are to rise to their full power, they can do so only if their children have better nurture in the early days of life. The selected notes confirm, from their special standpoint, the facts to be gleaned from the reports of the Medical Officers of Health, the Sanitary Inspectors, and the

Inspectors under the Local Government Board. It should be added that, in all cases, the mothers received maternity benefit; some of them received double benefit.

3. *Other Mining Centres.*—Dr Ernest Watt has collected much material to show the types of problem that occur and recur in some of the mining towns—Wishaw, Coatbridge, Airdrie, Kelty, and others. We have also received much valuable detail of the working of the health-visiting system of Motherwell, where the system has been elaborated on excellent lines and where the advantages of combining the various functions of the visitors—child welfare, tuberculosis, school work—have been confirmed by experience. I regret that the amount of matter already pressing for use precludes me from including the many representative cases and conditions contained in these carefully compiled statements. Generally, it may be said that, in all the mining towns, whether in Lanarkshire, or Fifeshire, or Ayrshire, or elsewhere, there is a tendency to the overcrowding of rooms, to the crushing of the whole family into the two beds in the kitchen and to the restriction of the movements of the very young children, partly because they need more attention than a busy mother is able to give them, partly because the local surroundings are frequently so dirty or so dangerous that the toddlers cannot be trusted out of the mother's sight. Repeatedly the value of a toddlers' play place or care place was put before the mothers of Lanarkshire and always won their assent. The records do suggest that, in the mining villages and towns, as in the cities, the toddlers suffer to some extent. But, at the worst, the houses of the rural mining rows are, as a rule, of a single story and the children move out and in constantly. Dirty or clean, the "outside" is never far away. In spite of the poor provision for this phase of life, one gets a general impression of the plumpness and rosiness of the young children. Generous feeding wins the day.

CHAPTER XLIX

SCHEMES OF MATERNITY AND CHILD WELFARE

1. *Legal Groundwork.*—In 1915 the British Parliament made a great new departure. It passed an Act containing the following words :—" Any Local Authority within the meaning of the principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of expectant mothers and nursing mothers, and of children under five years of age within the meaning of section 7 of the Education (Scotland) Act, 1908." Like many a great change, this came quietly, perhaps unexpectedly. It was almost a Parliamentary accident. Those words were contained in the Bill as introduced, but they applied to England as well as to Scotland. For some administrative reason, however, they were struck out of the English part of the Bill and their place was taken by a clause specifically adjusted to English conditions. But the clause discarded for England was adopted for Scotland. It now forms the legal groundwork for the official schemes of maternity and child welfare.

To suggest, however, that the coming of this great change was almost a Parliamentary accident is to read the facts superficially. In this long succession of chapters it is shown again and again that the child welfare movement is an old movement. Its beginnings are the beginnings of social life itself, a thing capable perhaps of partial analysis, but not capable of an exhaustive record. But each generation sees a crisis in the movement. Early in the nineteenth century it was the Poor Law, which was intended to systematise the care of the impotent poor and the destitute. Later it was the Factory Acts, which stopped child murder in the factory. A whole series of statutes whose origins reach back to early Roman law dealt with the protection of infant life and were imperfectly codified in the Children Act of 1908. In 1908, too, the Education (Scotland) Act took a stride forward when it provided medical inspection and treatment for school children. The National Health Insurance Act of 1911 made a new provision for maternity. The Notification of

Births Act of 1907 led to schemes specially adjusted to the care of infants under one. This Act is the immediate forerunner of the Notification of Births (Extension) Act, 1915, which contains the comprehensive clause already quoted. Each of these statutes is the product of innumerable factors. Each of them means a great preceding social movement. Each of them is a new departure. But, perhaps, of all the departures made in the statutes named, none is greater than the clause quoted. Elsewhere I have written :

With the new powers conferred on Local Authorities by the Notification of Births (Extension) Act, 1915, we make a new departure, both in principle and in practice. In principle, the Local Authorities have hitherto considered themselves as fulfilling their whole duty when they dealt with the general conditions of health and the special effects of infectious diseases. Even under the Public Health (Scotland) Act as it stands this is too narrow an interpretation, and under the Housing Acts it is much too narrow ; for, as the powers of the Public Health Act are more closely studied, they are found to cover endemic diseases as well as infectious diseases. But the new Act of 1915 removes all possibility of doubt as to the scope of the Local Authorities' powers. In principle, these are no longer governed by questions of infection or disease ; they are governed solely by the need for preserving the health of expectant mothers, nursing mothers, and children up to the age of five. In practice, the difference is also very great ; for hitherto the institutions required of Local Authorities have practically been limited to hospitals for infectious diseases, including tuberculosis. Under the new powers the institutions required are those arising out of the special needs of expectant mothers, nursing mothers, and children under five.

2. *Administrative Realisation of Legal Powers.*—The new powers are adoptive, not obligatory ; but they passed at once into executive form. This means that the country was ready for them. The many organisations sketched in this report had been operating for years. They were the preparation for the more closely organised schemes now made possible. The Local Authority for health is now an organising centre for all forms of voluntary energy. This is the view taken in the Memorandum issued by the Local Government Board for Scotland in 1916. This Memorandum shows how the legal powers may be realised in schemes fitted to every type of

community. The object of the Board is not to aim at theoretical completeness, but to encourage every Local Authority to act in ways adapted to its need and capacity. How deeply the common mind has been stirred is shown by the record we are able to give of the schemes already submitted or in contemplation. And this is the record for the short period of two years at a time when service is supremely difficult and finance adverse. In twenty-seven years' observation of administrative evolution, I have known only one public service that has grown with greater rapidity, namely, the medical inspection of school children. But that service was motived by a statutory obligation; the care of the pre-school children lies at the discretion of the Local Authorities. Yet the pre-school child will soon be as well provided for as the school child. The powers are there, and the will to use them is not wanting.

To show how the legal powers have passed into current administration, I reproduce, in part, five official documents issued by the Local Government Board for Scotland. These five documents should be read in their unity. Each represents a stage in administrative history. Sentence by sentence, phrase by phrase, they have been almost all subjected to the scrutiny of four Government departments. They therefore represent, at the dates, the departmental interpretation of the statutory powers conferred on the Central and Local Authorities. Each document is introduced with an explanatory note.

3. *Notification of Births Acts.*—The notification of a birth enables the Local Authority to make the common service directly available to the individual family. Notification has worked smoothly. The great majority of births are systematically notified. Notification of a birth does not supersede registration of a birth. Notification is intended as the first step in administrative action. Registration is the first step in the preservation of records and the building up of statistical material for general guidance. Notification, it is to be noted, is required within thirty-six hours; registration, within twenty-one days. The difference in time corresponds to the difference in object.

Notification has been embodied in two Acts: one passed in 1907, the other in 1915. The two are to be read together. The 1907 Act was adoptive; the 1915 Act was general. The chief adminis-

trative points in both Acts are given in Circular Public Health No. VII., 1915.

(1)

NOTIFICATION OF BIRTHS ACTS, 1907 AND 1915

(Excerpt from Circular Public Health No. VII., 1915, issued 18th August 1915 to Clerks of Local Authorities)

I. Notification of Births

As you are aware, the Notification of Births Act, 1907, now known as the Principal Act, was an adoptive Act, and it has been adopted by a large number of Local Authorities in Scotland. By the Notification of Births (Extension) Act, 1915, the provisions of the Principal Act will, after the first day of September 1915, extend to and take effect in every area in which it is not already in force.

II. Information regarding the Principal Act

Where the Principal Act comes into force as the result of the new Act of 1915, it is the duty of the Local Authority to bring the provisions of the Principal Act to the attention of all medical practitioners and midwives practising in the area. Where, however, the Principal Act has been already adopted, the Local Authorities will have carried out this duty.

The following are the provisions of the Principal Act as to notification :—

In the case of every child born in an area in which the Act is in force, it will be the duty of the father of the child, if he is actually residing in the house where the birth takes place at the time of its occurrence, and of any person in attendance upon the mother at the time of, or within six hours after, the birth, to give notice in writing of the birth to the Medical Officer of Health of the district in which the child is born.

The enactment will apply to any child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy, whether alive or dead.

The notice is to be given by posting a prepaid letter or postcard addressed to the Medical Officer of Health at his office or residence, giving the necessary information of the birth within thirty-six hours after birth, or by delivering a written notice of the birth at the office or residence of the Medical Officer within the same time. The Local Authority are required to supply, without charge, addressed and stamped postcards containing the form of notice to any medical practitioner or midwife residing or practising in their area who applies for them.

A person who fails to give the requisite notice of a birth will be liable on summary conviction to a penalty not exceeding 20s., but he will not be liable to a penalty if he satisfies the Court that he had reasonable grounds to believe that notice had been duly given by some other person.

The notification is to be in addition to, and not in substitution for, the requirements of any Act relating to the registration of births; and any Registrar of Births and Deaths whose parish or district, or any part thereof, is situate within any area in which the Act is in force, is at all reasonable times to have access to the notices of births received by the Medical Officer of Health, or to any book in which those notices may be recorded, for the purpose of obtaining information concerning births which may have occurred in this parish or district.

III. Provisions affecting Expectant Mothers, Nursing Mothers, and Children under Five Years of Age

In the application of the new Act to Scotland, the following important provision occurs :—

> "Any Local Authority within the meaning of the Principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of expectant mothers and nursing mothers, and of children under five years of age within the meaning of section 7 of the Education (Scotland) Act, 1908."

(1) *Local Authority.*—The Local Authority in the Principal Act is the Local Authority under the Public Health (Scotland) Act, 1897.

(2) *New Powers of Local Authority.*—The Local Authority, under the section quoted, receive power to make arrangements for attending to the health of expectant mothers, nursing mothers, and children under five years of age within the meaning of section 7 of the Education (Scotland) Act, 1908. The arrangements made by the Local Authority are subject to the sanction of the Local Government Board.

(3) *Expenses.*—Expenses incurred in the exercise of these powers shall be paid as part of the expenses of the Local Authority in the execution of the Public Health Acts.

(4) *Appointment of Committee.*—If the Local Authority see fit, they may exercise their powers under the Act through a committee or committees. The committee or committees must include women, and may comprise, if it is thought fit, persons who are not members of the Local Authority. A committee so appointed shall hold office for such period not exceeding three years as the Local Authority may determine. The committee may also be empowered by the Local Authority to incur expenses up to a limit for the time being fixed by the Local Authority, and, if so empowered, must report any expenditure by them to the Local Authority in such manner and at such times as the Local Authority may direct.

(5) *Combination of Local Authorities.*—In many parts of Scotland it is desirable, on grounds of economy and efficiency, that Local Authorities should combine for the purposes of this Act and the Principal Act. Accordingly, the Local Government Board are empowered to authorise, by order, any two or more Local Authorities to act together and to prescribe the mode of such joint action and of defraying the costs.

IV. Grants-in-Aid

To assist the Local Authorities in carrying out the purposes of the Act, the Lords Commissioners of His Majesty's Treasury will invite Parliament to make grants to an amount not exceeding one half of the expenditure involved under any scheme of arrangements sanctioned by the Local Government Board in terms of the Act. The detailed conditions of grant will be communicated to you as soon as they have been approved by the Treasury.

V. Preparation of Schemes

The Board invite Local Authorities to submit schemes of arrangements in terms of the Act. A memorandum explaining the general principles on which such schemes should be based will be sent you at a later stage.

In the preparation or discussion of schemes, a member of the Board's medical staff will be prepared to confer with Local Authorities and their officers.

I am requested to ask you to submit this circular to your Local Authority for their immediate consideration.

A copy has also been sent to the Medical Officer of Health for the district.

4. *Midwives (Scotland) Act*, 1915.—It was only in 1915 that the Midwives (Scotland) Act was passed. A Midwives Act has been operative in England for some fifteen years. Scotland benefits by the English experience. The Act contains many important provisions, but two of them deserve special attention: first, the power of the local supervising authority to contribute towards the training of midwives within or without their respective areas; second, the obligation on the local supervising authority to pay a medical fee when, under the rules of the Central Midwives Board, a midwife has to summon a doctor in an emergency. This Act places in the hands of the Local Authority an organisation of immense power for improving the whole maternity service. It forms part of the machinery available under a maternity and child-welfare scheme. It is, therefore, not merely an Act for the registration and training of midwives, itself a sufficiently important purpose; but it is also an administrative Act placing on the Local Authority an obligation to see that the work of the midwives is kept on the highest professional level. That a more stringent supervision and an increase of midwifery service are both necessary cannot be doubtful in the mind of anyone that glances at some of the ghastly records exhibited in this Report. The child-welfare schemes include the provision and supervision of midwifery service.

SCHEMES OF MATERNITY AND CHILD WELFARE

(2)

MIDWIVES (SCOTLAND) ACT, 1915

(Circular Public Health No. I., 1916)

The above Act, which was passed on 23rd December 1915, came into operation on 1st January 1916, and the Local Government Board for Scotland desire to draw attention to its provisions so far as they affect Local Authorities.

I. Local Authorities under the Act

The Local Authorities under the Public Health (Scotland) Act, 1897, are the Local Supervising Authorities for the purposes of the Act, and the Act applies to all districts of Local Authorities within the meaning of the former Act, except such districts as may be excluded from the operation of the Act by order of the Local Government Board for Scotland.

II. Powers and Duties of Local Authorities under the Act

(1) *General Superintendence of Midwives.*—Under section 16 of the Act, it is the duty of the Local Supervising Authority, by themselves, or by their medical officer acting under their instructions—

(1) to exercise general supervision over all midwives practising within their district in accordance with the rules to be laid down under the Act ;

(2) to investigate charges of malpractice, negligence, or misconduct on the part of any midwife practising within their district, and, should a *prima facie* case be established, to report the same to the Central Midwives Board to be constituted under the Act ;

(3) to suspend any midwife from practice, in accordance with the rules under the Act, if such suspension appears necessary in order to prevent the spread of infection ;

(4) to report at once to the Central Midwives Board the name of any midwife practising in their district convicted of an offence under the Act ;

(5) to report at once to the Central Midwives Board the death of any midwife or any change in the name and address of any midwife in their district, so that the necessary alteration may be made in the roll of midwives to be published annually by the Central Midwives Board ;

(6) to supply to the Secretary of the Central Midwives Board, during the month of January of each year, the names and addresses of all midwives who, during the preceding year, have notified their intention to practise within their district, and to keep a current copy of the roll of midwives, accessible at all reasonable times for public inspection.

(7) to give due notice of the effect of the Act, so far as practicable, to persons at the commencement of the Act using the title of midwife, within their district.

(2) *Delegation of Powers.*—The same section further provides that the Local Supervising Authority may delegate, with or without any instructions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of the Act, to a committee appointed by them, and consisting, either wholly or to the extent of two-thirds or more, of members of the authority, and women shall be eligible to serve on any such committees.

(3) *Power of Entry.*—Section 17 of the Act provides that for the purpose of exercising the powers of supervision over midwives conferred on Local Supervising Authorities, any officer appointed by such an authority for the purpose may at all reasonable times enter any premises which he has reason to believe to be a lying-in home conducted for profit within the district of the authority, and in which he has reason to believe that a certified midwife is employed or practises, or that a woman not a certified midwife practises in contravention of the Act.

(4) *Contributions to General Expenses of Central Midwives Board.*—The general expenses of the Central Midwives Board are to be defrayed out of the fees payable by persons presenting themselves for examination or certificates as midwives in terms of the Act. If such fees are insufficient to defray these expenses, power is given under section 13 of the Act whereby the deficit may be recovered from the Local Supervising Authorities. The amount of the deficit will be apportioned among such authorities in proportion to the populations of their districts as ascertained at the last preceding census. On receipt of a precept from the Central Midwives Board for the amount so apportioned, the Local Supervising Authority must pay to that Board the amount requisitioned within six months after receipt of the precept or such other period as may be agreed with that Board.

(5) *Contribution to Training of Midwives.*—Local Supervising Authorities are by section 21 authorised to contribute towards the training of midwives within or without their respective areas in such manner and to such extent as may be approved by the Local Government Board for Scotland.

(6) *Emergency Fees.*—Where in the case of an emergency a midwife calls in to her assistance a registered medical practitioner the Local Supervising Authority must pay to such medical practitioner a sufficient fee, with due allowance for mileage, according to a scale to be fixed by the Local Government Board for Scotland. The Local Supervising Authority are empowered to recover the fee from the husband or guardian of the patient. (Section 22.)

(7) *Annual Report by Medical Officer.*—The Medical Officer of every Local Supervising Authority must report annually to that authority on the administration of the Act within the district of the Local Authority, and he must transmit a copy of the report to the Central Midwives Board and to the Local Government Board for Scotland.

III. Notification of Practice by Midwives

Section 18 of the Act provides that every woman certified under the Act shall, before holding herself out as a practising midwife or commencing to practise in any district, give notice in writing of her intention so to do and of the address at which she resides to the Local Supervising Authority, and shall give a like notice in the month of January in every year thereafter during

which she continues to practise in such district. The notice is to be given to the Local Supervising Authority of the district where the woman usually resides or carries on her practice, but a similar notice must also be given to every other Local Supervising Authority within whose district such woman at any time practises or acts as a midwife, within forty-eight hours at the latest after she commences so to practise or act. Changes of address have also to be duly notified.

IV. Expenses of Local Authorities

Any expenses under the Act payable by the Local Supervising Authority shall be defrayed out of the public health general assessment.

5. *Preparation of Schemes.*—For the guidance of Local Authorities in the preparation of schemes of maternity service and child welfare, the Board issued a Memorandum explaining the principles on which such schemes should be constructed and indicating the kinds of institutions that might properly be included. It is shown how the various agencies dealing with mothers and children may now be brought within a single administrative system. The many agencies and institutions described in this Report may now link up their work with the work of the public authority. The Memorandum inevitably involves some repetition, and one or two items in it are modified in a later document; but I prefer to reproduce the Memorandum as it was issued, because, in that form, it better illustrates the stages of administrative growth.

(3)

EXCERPTS FROM MEMORANDUM ON SCHEMES OF MATERNITY SERVICE AND CHILD WELFARE

(*Issued March 1916*)

I. GENERAL PURPOSE OF THE NOTIFICATION OF BIRTHS ACTS, 1907 AND 1915

1. Children of Pre-School Ages

For several years the conditions of child life have been closely studied and analysed. In 1903 the Royal Commission on Physical Training (Scotland) included in its report a large number of facts on the health of school children. A year later these facts were supplemented by the committee on physical deterioration. As the result of these investigations, the Legislature established throughout Great Britain a system for the medical inspection and treatment of school children. Medical inspection has revealed the fact that the defects and diseases found in children of school age are, in large measure, the result of neglect at the pre-school ages. The reports of the Scotch Education Department and the English Board of Education furnish abundant proofs for this conclusion.

2. Infantile Mortality

Meanwhile, the first year of child life has been carefully investigated by the Central Departments, by the Local Authorities, and by independent specialists. The reports of the Local Government Boards of England and Scotland, and the reports of the Registrars-General contain a great amount of information of the first administrative value regarding the death-rate of children under one, the classified causes of death, and the possible methods of bringing those death-rates to a lower level. The main facts are now common knowledge. It is shown that everywhere, particularly in the large industrial areas, the death-rate of infants under one year of age is too high, and that the high death-rate is largely due to preventable causes.

3. Notification of Births

To enable Local Authorities to obtain more exact information, notification of births was provided for in the Act of 1907. This was an adoptive Act; but it was adopted by a large number of Local Authorities in Scotland. It has also been followed in many districts by the appointment of health visitors, both official and voluntary. Through the organisations thus established, the Local Authorities have been able to accumulate a great deal of valuable information and to take active measures for the reduction of infantile mortality. The facts collected from one source or another resulted in the passing of the Notification of Births (Extension) Act, 1915, which makes the notification of births obligatory in every district of Scotland.

4. Expectant and Nursing Mothers

But the notification of births is only the first step. Experience has shown that the condition of the mother's health before the birth of her child has a direct bearing on the capacity of the child to survive after birth. Hitherto, attention has been directed mainly to the needs of the nursing mother. If, however, child life is to be adequately protected, it is equally essential that the expectant mother should have access to advice and treatment.

5. General Purpose of 1915 Act

Accordingly, the purpose of the new Act is to enable Local Authorities to make arrangements for attending to the health of expectant mothers, nursing mothers, and young children up to the age of five. The Act thus covers the period of child life not provided for under the Education Acts. It is now possible to secure that expectant mothers, nursing mothers, and children of the pre-school ages shall have adequate care, medical advice and treatment.

6. Local Authorities and Voluntary Agencies

But the purpose of the Act cannot be realised unless the Local Authorities consider with special care how they can best adapt their administrative machinery to the new duties now put upon them. Part of the work it will be possible for the Local Authorities themselves to do; but they should also

be an organising centre for all voluntary agencies that concern themselves with the promotion of child welfare in the district. These agencies include maternity hospitals, lying-in institutions, out-patient departments, sick children's hospitals, children's clinics, dispensaries, day nurseries, schools for mothers (whether conducted privately or by school boards), nursery schools, kindergartens, and other allied institutions and organisations. The amount of voluntary effort and support devoted to such institutions and organisations is one of the most striking features of modern social work. It is of primary administrative importance that the Local Authorities should be in touch with all the child welfare institutions and agencies operating in their district and should provide facilities for better correlation and organisation.

7. Maternity Service and Child Welfare

Briefly, it may be said that, to realise the purpose of the Act, the Local Authorities should endeavour to provide, secure, or arrange for, *first*, a maternity service for expectant and nursing mothers ; *second*, such services as may be necessary for the general health, supervision, and treatment of infants from birth to the age of five.

II. MATERNITY SERVICE

8. Supervision of Midwives

Under the Midwives (Scotland) Act, 1915, the Local Authority becomes the " local supervising authority over midwives within such district." It is " the duty of the Local Authority by themselves, or by their medical officer acting under their instruction, to exercise general supervision over all midwives practising within their district in accordance with the rules to be laid down under this Act." The Local Authority is also authorised to contribute towards the training of midwives. When a midwife, in case of " emergency " as defined by the rules, calls to her assistance a registered medical practitioner, the Local Authority must pay to such practitioner " a sufficient fee, with due allowance for mileage, according to a scale to be fixed by the Local Government Board for Scotland, and such fee shall cover one subsequent visit."

These powers will materially assist the Local Authority in organising a satisfactory maternity service. It may at once be said that the Board will not approve of any scheme, or portion of a scheme, of maternity service unless the midwives employed are qualified for registration under the Midwives (Scotland) Act, 1915.

9. Maternity Centres

The Local Authority should ascertain what maternity institutions are at work in its district. In many localities the Local Authorities may be able to make arrangements with such institutions, and these arrangements will form part of their scheme. In other localities it may be necessary to provide institutions, midwives, and medical attendance. In towns, and in the more populous county areas, the Local Authority should be in a position to arrange for or provide maternity centres, where expectant and nursing mothers and young infants may receive advice and treatment. It is from

such centres that an adequate maternity service can be most readily organised. Incidentally, the centre would serve as a clinic for very young infants. In some localities the institutions available might accommodate also children from one to five years of age, but probably, in most localities, these could be more satisfactorily provided for at other institutions, such as school clinics, or special dispensaries, or out-patient departments of hospitals.

III. HEALTH OF CHILDREN UNDER FIVE YEARS OF AGE

10. Child Welfare Centres

As a preliminary step, the Local Authority should ascertain what institutions or agencies for the systematic care of children under five are available in its district. All such institutions or agencies should be taken into account in the framing of the Local Authority's scheme. Every institution or agency receiving assistance from the Local Authority under an approved scheme should have a responsible body of managers and a person designated to act as correspondent. Where a school clinic exists, as in some of the large cities, the Local Authority may be able to arrange with the school board for the treatment of children under the age of five or for the use of the school board's premises and appliances. The primary object is to make treatment available for children requiring it and not otherwise provided for. The school clinics, where they exist, have already largely succeeded in doing this for school children, and there is no reason why the organisations now established by the larger school boards should not, by arrangement, be developed to include pre-school children as well. In other localities, however, different arrangements will be necessary, and the Board will be prepared to consider them under any scheme submitted.

11. Medical Superintendence

All child welfare institutions included in a scheme must be provided with adequate medical superintendence.

12. Infectious Diseases

The Local Authorities have, under the Public Health Acts, full powers for dealing with infectious diseases, including measles, whooping-cough, diphtheria, and certain forms of diarrhœa. Those diseases are peculiarly fatal to young children; but, even when the diseases are not fatal, the after-effects are frequently serious. It is generally accepted that tuberculosis in early infancy is often stirred up or aggravated by measles and whooping-cough. In dealing with the infections of early childhood and their after-effects, the Local Authorities will be materially assisted by the improved organisation made possible under the powers of the Notification of Births (Extension) Act.

IV. SCHOOLS FOR MOTHERS

13. Special Function of Schools for Mothers

The term "school for mothers" has been used somewhat comprehensively to include such institutions as child welfare institutions, or associations,

infant consultation centres, mothers' clubs, babies' welcomes, etc., etc. In England some schools for mothers, being predominantly educational, are placed under the direct control of the Board of Education ; others, being predominantly medical, are placed under the Local Government Board. Under the Notification of Births (Extension) Act, as applied to Scotland, there is no need for any such administrative distinction. All children from birth to the age of five are, in terms of the Act as applied to Scotland, brought within the scope of the Local Authority for Public Health, which is empowered to make arrangements for attending to the health of such children. There will, however, be a very important place for schools for mothers in the more strictly technical sense. This may be shortly explained.

14. Co-operation with School Boards and Secondary Education Committees

In several localities the school boards have arranged schools for mothers as part of their continuation class system. A typical example is furnished by the School Board of Edinburgh. For several years the Edinburgh School Board has conducted " special classes for women." In the year 1914–15 these classes were attended by 679 women ; the percentage attendance for the session being 86·9. The curriculum for these classes includes such subjects as cutting-out, invalid cookery, sick nursing, and the care of children. Within the last few years, at the instance of the Voluntary Health Visitors of the Public Health Department, and with the co-operation of other organisations, the School Board has extended its range of work. Thus, in a report on a motherhood class at one of the schools, it is said :—" Over 40 members enrolled, and the attendance has rarely been below 34." The course included thorough instruction by a lady doctor in the hygiene of motherhood. " The interest and attention have been marked. We have been present at the lectures and were impressed by the possibilities for good in the development of such courses as a permanent part of the activities of these special classes for women." The method of organisation is simple :—Wherever a sufficient number of mothers or women desire instruction, the School Board provides place, equipment, and teachers. Recently, on the application of certain voluntary organisations, the School Board has made arrangements for providing instruction at centres other than its own schools. This is to facilitate the attendance of mothers and to reduce the amount of interference with home duties.

Accordingly, where a Local Authority desires to establish a school for mothers, the simplest course will be to arrange with the school boards for the establishment of appropriate classes in their continuation schools, or for equipment and teaching at maternity centres or other convenient institutions. The Local Authority will thus have the advantage of skilled teaching provided by the educational authority. This system will not, of course, in any way preclude such instruction at infant consultation centres or maternity centres as the officers of those institutions may consider desirable either in the form of individual advice or of class instruction. Such informal instruction will, in fact, be a normal part of the administration of those centres, and will be covered by any grants that may be made in respect of the institu-

tion as a whole. But schools for mothers in the more technical sense can be arranged for with the School Board, and such an arrangement should, wherever possible, form a part of the Local Authority's scheme.

15. Facilities for Professional Teaching and Training

The Local Authority should secure that the institutions included in its scheme shall, wherever the conditions are suitable, afford the widest facilities for professional teaching and technical training.

V. PREPARATION OF SCHEMES

16. In the light of these general considerations, the Board suggest that schemes should, as far as practicable, contain the elements specified in the subjoined outline. It is not expected that every Local Authority will be able to present schemes so comprehensive, and the Board will be prepared to consider such smaller schemes as the Local Authorities are able to include in their arrangements. The outline now submitted is intended merely as a guide, and may be developed on the lines most appropriate to each locality.

Outline of Scheme

(1) *Submission of Scheme.*—In submitting a scheme for approval, the Local Authority should give, in the form prescribed by the Board, full information regarding :—

(*a*) The duties, special qualifications, and salaries (if any) of medical practitioners, nurses, midwives, health visitors, and other officers to be employed ;

(*b*) The institutions to be provided or utilised.

(2) *General Provisions.*—In its scheme, the Local Authority should provide for :—

(*a*) The best practicable utilisation of such voluntary institutions or agencies as may be available in its district ;

(*b*) The keeping of such records as the Board may require ;

(*c*) Teaching facilities at any institutions included in the scheme, and approved for that purpose by any Government Department or other authority concerned.

(3) *Health of Expectant and Nursing Mothers.*—In such part of its scheme as concerns expectant mothers and nursing mothers, the Local Authority should, as far as practicable in its district, provide, secure, or arrange for the following :—

(*a*) Maternity centres where expectant mothers and nursing mothers may come for medical advice and treatment ;

(*b*) A system of home visitation of expectant mothers and nursing mothers ;

(*c*) Such assistance, when confinement takes place at home, as to ensure that the mother shall have skilled and prompt attention ;

(*d*) Hospital accommodation when the woman to be confined suffers from illness or any deformity, or when other conditions exist involving danger to mother or child ;

(*e*) Hospital accommodation for treatment of complications following the birth of the child ;

(*f*) Co-operation with the School Board or secondary education committees in the organisation and conducting of schools for mothers or young women.

(4) *Health of Children under Five Years of Age.*—In such part of its scheme as concerns children under five years of age, the Local Authority should, as far as practicable within its district, provide, secure, or arrange for the following :—

(*a*) Clinics or consultation centres (which may be conducted at a maternity centre), where the children may be brought for medical advice and treatment ;

(*b*) Hospital accommodation for sick children when satisfactory treatment is impossible at home ;

(*c*) Convalescent homes for children in impaired health ;

(*d*) Day nurseries, or nursery schools, for children of suitable age ;

(*e*) Such records as may enable the Local Authority, through its Medical Officer of Health, to furnish any child of school age with a certified health schedule for presentation on admission to school.

Note.—In regard to day nurseries the scheme should contain a specific provision fixing the payment to be made by mothers (*a*) towards the cost of food necessarily provided there for infants, (*b*) generally for the care of their children during the day.

6. *Treasury Regulations for Grants-in-Aid.*—At the beginning, certain types of institution were excluded from the advantage of the grant-in-aid. They might be provided by the Local Authorities, but the Local Authorities would receive no assistance in their provision. To enter into the detail of the original exclusions would only create confusion. The document now printed (Public Health No. IX., 1917) has just been issued by the Local Government Board for Scotland with the approval of the Treasury. It shows for what services the grant-in-aid is at present available. It is important to note that the Local Authority is not prevented from spending money on services not included in the regulations ; but it is only for the services so included that the Local Authority will receive Imperial assistance. The range of the regulations, however, is very wide. They cover most of the services shown in this Report to be essential to the welfare of mothers and children. How far such services may be developed rests with the Local Authorities. Perhaps the most striking article is the regulation dealing with the expenses of crèches and day nurseries, which are now interpreted liberally as including play centres, children's gardens, or equivalent institutions for the

day-care of children under five. The regulation covers provision for the educational control incidental to such institutions. In this matter the Local Government Board for Scotland act in concert with the Scotch Education Department, who are consulted as to the qualifications of any persons appointed for this special work.

In the distribution of the grants-in-aid, the Local Government Board for Scotland act on the same general lines as the English Local Government Board. But there is one important difference. In England some institutions, such as schools for mothers and play centres, receive grants direct from the Board of Education and are under the control of that Board; some others, such as maternity centres and certain hospitals, receive grants from the English Local Government Board either directly or through the sanitary authorities. In Scotland, all the institutions included in a child-welfare scheme are under the control of the Local Government Board for Scotland. Further, in Scotland no grants are made direct to any institution or agency. All grants are made to Local Authorities alone. The amount of grant cannot exceed 50 per cent. of the Local Authority's approved outlays. This means that of every £100 of local rates spent by the Local Authority either as contributions to institutions or otherwise, £50 is repaid to the Local Authority from the Imperial grant-in-aid. The Local Authority may itself provide the institutions or arrange for the use of them. In either case the net outlays, if approved by the Board, rank for grant.

(4)

REVISED REGULATIONS FOR GRANTS-IN-AID OF MATERNITY AND CHILD-WELFARE SCHEMES

(*Public Health No. IX., 1917*)

I am directed by the Local Government Board for Scotland to draw the attention of the Local Authority to the appended revised regulations for the distribution of the grant for maternity and child welfare. I have also to refer to their Circular of 14th March 1916, transmitting copy of the Memorandum explaining the general principles on which schemes of maternity service and child welfare should be based. The Board take this opportunity of impressing on Local Authorities the importance of securing full provision for maternity and child welfare in their districts, in spite of the need for economy in other directions at the present time.

I. Inspection of Midwives

In considering applications for grants in respect of the salaries of inspectors of midwives, the Board will take into account the arrangements made in the

area for maternity and child welfare generally. Where these arrangements are inadequate, and in particular where the staff of health visitors is insufficient, the grant may be withheld.

In making arrangements for the inspection of midwives, it should be borne in mind that where health visitors are suitably qualified there are many advantages in appointing them as assistant inspectors of midwives.

The Board's grant is not available in respect of the statutory contributions made by the local supervising authorities of the Central Midwives Board.

II. Health Visitors and Nurses

The Board regard the provision of adequate home visiting as one of the most important elements in any scheme of maternity and child welfare. Local Authorities should, as a rule, aim at securing a staff equal to at least one whole-time health visitor for each 400 births. It is essential that the work of the health visitor should include the visitation of all children under the age of five.

The work assigned to health visitors may properly include the visiting of cases of measles, whooping-cough, diarrhœa, and ophthalmia neonatorum. The Board's grant is available in respect of this work and in respect of the provision of nurses for children suffering from these diseases and in need of this assistance. During epidemics it may be necessary for the health visitor to devote her whole time temporarily to this work. Where the number of cases is large, one or more additional officers should be temporarily appointed. Grant is also available in respect of the salaries of nurses provided by the Local Authority for women suffering from puerperal fever and under treatment at home.

In some areas it may be an advantage to combine the duties of health visitor with the duties of tuberculosis nurse and of school nurse. The Board will regard with favour any such combination of duties as will secure an economical and adequate service.

III. Provision of Midwifery

The object of the Board's grant-in-aid of midwifery is to secure that as far as practicable there shall be an efficient midwifery service throughout the country, and that all women may be able to obtain the services of a competent midwife for their confinement. At present some women do not obtain the services of a midwife, because they cannot afford to pay her fee, while in other cases there is no competent midwife within reach owing to the difficulty experienced by midwives in making a living in some parts of large towns, in many smaller towns, and in most rural areas.

For the benefit of such women as cannot afford to engage a midwife, the Board are prepared, where a Local Authority undertake, with their approval, to provide the services of a competent midwife gratuitously or at less than the ordinary fee, to make a grant equal to half the deficiency between the amount of the fee recovered and the ordinary fee of the district. The Board must be satisfied that proper arrangements are made for investigating the circumstances of all the cases attended at less than the ordinary fee.

Where a competent midwife is not available the Board are prepared to make a grant-in-aid of the maintenance of a midwife appointed by the Local Authority under an approved scheme. A Local Authority may, in the Board's opinion, pay or guarantee the salary of a competent midwife who is willing to practise in a district in which a midwife cannot make a sufficient income without such assistance. In such cases, provided that a reasonable fee is paid by such of the women attended by the midwife as can afford to pay, and the Board are satisfied that the services of a competent midwife cannot otherwise be made available, the Board are prepared to pay a grant of half the amount paid towards the support of the midwife.

IV. Provision of Doctors

Where a Local Authority provide the services of a doctor for normal cases of confinement where a competent midwife is not available, and pending the completion of arrangements for providing a midwife, the Board will, where the cases are necessitous, make a grant of half the fee paid to the doctor. The scale of fees should be submitted to the Board for approval.

Where a doctor is called in by a midwife to an emergency case of confinement, as defined in the rules of the Central Midwives Board for Scotland, the Board are prepared to make a grant, where the cases are necessitous, of half the fee paid to the doctor by the Local Authority.

Where a Local Authority provide the services of a doctor for a case of illness connected with pregnancy, the Board are prepared, where the cases are necessitous, to make a grant of half the fee paid to the doctor. It must be understood that this service will, as a rule, be available only for cases of non-insured women.

V. Provision of Maternity Nurses

The grant is available in aid of approved arrangements for providing the services of a properly qualified maternity nurse, where this assistance is needed, and where the women cannot afford to pay for it.

VI. Medical Attendance at the Centre

Medical attendance should be provided at the maternity and child welfare centre, and it should be regular and uniform, *i.e.* the same doctor should attend at stated intervals. The Board do not approve of a rota of doctors, as ordinarily understood at a centre ; subject to this, the doctor may be the Medical Officer of Health or Assistant Medical Officer of Health, or a local practitioner. If the medical officer of the centre is an officer of the Local Authority, he, or she, should be paid a separate salary for this work. It is desirable that Local Authorities should consult the local medical practitioners before making arrangements for medical attendance at a centre.

VII. Crèches and Day Nurseries

A grant-in-aid of crèches and day nurseries (including outdoor and indoor play centres, children's gardens, or equivalent institutions for the day-care of children under five) will be paid to a Local Authority in respect of the net

maintenance expenditure on facilities provided by the Local Authority or in respect of contributions made by them to voluntary institutions providing those facilities.

In making arrangements for day nurseries, which include play centres, children's gardens, or equivalent institutions for the day-care of children under five, the Local Authority should keep in view that such institutions, although they are organised primarily from the standpoint of health, necessarily involve also some provision for the educational control of the children. Every properly conducted day nursery, or play centre, trains the children in habits of personal cleanliness, but the actively-growing minds demand also some guidance from persons familiar with the many special methods of promoting the mental development of children of the pre-school ages. The superintending staff of such institutions should, therefore, include a certain proportion of women trained in these methods. In considering any schemes that include day nurseries, play centres, or equivalent institutions for children under five, the Board will act in concert with the Scotch Education Department, who will be consulted as to the qualifications of the women appointed to take charge of the educational work of the institutions. It is not suggested that every day nursery should make special provision for educational control, but in making their arrangements the Local Authority should see that, wherever possible, the women in charge of the day nurseries, play centres, or children's gardens have themselves sufficient training for the type of educational control required, or that the assistance of a trained person is available. The salaries of the persons appointed for this special work will rank for grant.

VIII. Schools for Mothers and Young Women

The Board's Memorandum of March 1916 gives information as to the arrangements for schools for mothers and young women.

IX. Hospital Treatment

A grant-in-aid of hospital beds for the class of cases mentioned in the regulations will be paid to a Local Authority in respect of maintenance expenditure on accommodation provided by the authority or in respect of contributions made by them to a voluntary hospital for the right to use beds in that hospital. In applying for grants in aid of contributions to voluntary hospitals, Local Authorities should supply information to show that the accommodation for which grant is claimed would not have been provided for the cases for which it has been used if a contribution from the Local Authority had not been available.

The provision of hospital treatment for the cases of women who, in the opinion of the Medical Officer of Health, cannot with safety be confined in their homes, is, in the main, intended to provide for cases where, on account of the existence of infectious disease in the house, or of overcrowding within the meaning of the Public Health (Scotland) Act, 1897, the confinement cannot take place without danger to mother or infant, provided that the infectious person cannot be removed, or the overcrowding relieved with sufficient rapidity.

Expenditure on non-residential treatment in hospitals will rank only where the hospital provides new facilities by making special arrangements for child and maternity centres (the work of which has not hitherto formed part of the normal work of a hospital), apart from the ordinary treatment of sick persons in the out-patient's department.

X. Provision of Food and Milk in Necessitous Cases

The Board would direct the particular attention of the Local Authority to the extension of the grant-in-aid of this purpose. It must be clearly understood that free food and milk are to be supplied by the Local Authority in necessitous cases only, and that wherever possible the cost shall be met wholly or in part by contributions from the recipients. Before grant can be allowed, the Board will require to be satisfied as to the arrangements that are made to secure that only such cases will benefit.

XI. Voluntary Agencies

Local Authorities are empowered to contribute to the funds of a voluntary agency in consideration of their undertaking such maternity and child welfare work as is within the powers of the Local Authority. Where a voluntary agency provides a centre, the Medical Officer of Health should exercise supervision over it, and arrangements should be made for the attendance of the health visitor at the consultations.

XII. Notification of Births

The Board would impress on Local Authorities the importance of securing the notification of all births that occur in the district. The births that escape notification under an imperfect system of administration are likely to be those that most require visiting.

REGULATIONS under which Grants not exceeding one-half of approved net expenditure will be payable by the Local Government Board for Scotland to Public Health Local Authorities in respect of arrangements for attending to the health of expectant mothers and nursing mothers and of children under five years of age within the meaning of section 7 of the Education (Scotland) Act, 1908.

1. That the scheme of the Local Authority and the institutions and agencies receiving assistance from it under the scheme shall have been approved by the Local Government Board and shall continue to their satisfaction.

2. That the actual and reasonable net expenditure incurred by the Local Authority under the scheme whether directly, or by way of assistance to approved institutions and agencies, shall to the extent approved by the Board rank for claim against the grant.

For this purpose, the following expenditures will be admitted :—

(*a*) The salaries and expenses of inspectors of midwives.

(*b*) The salaries and expenses of health visitors and nurses engaged in maternity and child welfare work.

(*c*) The provision of a midwife for necessitous women in confinement and for areas which are insufficiently supplied with this service.

(*d*) The provision for necessitous women of a doctor for illness connected with pregnancy and for aid in confinement.

(*e*) The expenses of a centre, *i.e.* an institution providing any or all of the following activities, viz. medical supervision and advice for expectant and nursing mothers and for children under five years of age, and medical treatment at the centre for cases needing it.

(*f*) Arrangements for instruction in the general hygiene of maternity and childhood.

(*g*) Expenses of crèches and day nurseries, including play centres, children's gardens, or equivalent institutions for the day-care of children under five.

(*h*) The expenses of schools for mothers and young women provided by arrangement with the Education Authority, so far as such expenses are not chargeable against the Education Authority.

(*i*) Hospital treatment provided or contracted for by Local Authorities for complicated cases of confinement or complications arising after parturition, or for cases in which the woman to be confined suffers from illness or deformity, or for cases of women who, in the opinion of the Medical Officer of Health, cannot with safety be confined in their homes. Hospital treatment provided or contracted for by Local Authorities for children under one year of age found to need in-patient treatment.

(*j*) The cost of milk and dinners provided for expectant mothers and nursing mothers, and of milk provided for children under five years of age, where such provision is certified by the medical officer of the centre or by the Medical Officer of Health to be necessary and where the case is necessitous.

(*k*) Contributions by the Local Authority to voluntary institutions and agencies approved under the scheme.

3. That the salaries and appointments of all officers employed by the Local Authority under the scheme shall be approved by the Board.

4. That no alteration of an approved salary shall be made without the consent of the Board.

5. That medical superintendence to the satisfaction of the Board shall be provided at all institutions included in the scheme.

6. That the qualifications of any midwife appointed by the Local Authority under the scheme shall be subject to the approval of the Board.

7. That the Board's officers shall have access to all records of institutions and agencies included in the scheme, and that such institutions and agencies shall be open to the inspection of the Board and their officers.

8. That where a scheme or an institution or agency included under a scheme is not conducted to the satisfaction of the Board, the grant may be reduced or withheld.

9. That any question as to the interpretation of these regulations shall be decided by the Board.

10. That each item of expenditure entered in the claim shall refer exclusively to work under the scheme during the preceding local financial year ending in May, and shall be supported by voucher distinct as to its date, the period to which it refers, and the subject of payment.

11. That the claim and all relative vouchers shall be lodged with the Board on or before a date to be intimated by them.

7. *Form for Submission of Schemes.*—This form was issued in 1916. It has been found very convenient. In a few particulars it is already out of date, so rapidly do events move; but it is still a good index of the elements expected in a comprehensive scheme of maternity and child welfare.

(5)

SCHEMES OF MATERNITY SERVICE AND CHILD WELFARE

The Board do not propose to prescribe any form of scheme applicable to all Local Authorities, but they append hereto the heads of a complete and comprehensive scheme. Such a scheme may be possible only for the large and populous areas. Local Authorities that cannot carry out a scheme on these lines should follow the heads set out as far as possible and submit the scheme they consider appropriate for their areas; but Local Authorities should, in preparing their scheme, consider to what extent combination with other Local Authorities is possible.

INFORMATION REQUIRED BY THE LOCAL GOVERNMENT BOARD ON SUBMISSION OF SCHEMES FOR APPROVAL

I. General Statistics of District

(1) Population of district (Census 1911).
(2) Population of district under five years of age (Census 1911).
(3) Number of births in each of last five years.
(4) Number of stillbirths in each of last five years.
(5) Birth-rate for each of last five years.
(6) Number of deaths under one year in each of last five years.
(7) Deaths under one year per thousand births in each of last five years.
(8) Number of deaths under five years in each of last five years.

II. Administrative and Executive Staff

(1) Medical officers; (2) health visitors; (3) nurses; (4) inspectors of midwives; (5) midwives; (6) other officers.

Note.—The qualifications, duties, and salary of each officer should be given. Where the officer is only part-time, this should be shown.

SCHEMES OF MATERNITY AND CHILD WELFARE

III. Non-residential Institutions provided or to be provided by the Local Authority

(1) Maternity centres; (2) child welfare centres for children from birth to age five; (3) special treatment centres, whether at hospitals or elsewhere; (4) day nurseries; (5) kindergartens, nursery schools, and organised play centres; (6) other institutions.

Note.—Particulars should be given as regards situation, accommodation and equipment, medical superintendence, staff, days and hours when open, of each institution.

In addition, the following particulars should be given:—

Maternity Centres.—(1) Where the maternity centre is provided as part of the out-patient department of a hospital, state (*a*) the nature of the existing facilities, and (*b*) the new facilities proposed to be provided.

(2) Where the maternity centre is not part of a maternity hospital or lying-in institution, state the arrangements to be made with health visitors and midwives to ensure attendance of expectant and nursing mothers.

(3) Nature of opportunities for instruction of students, nurses, health visitors, and other pupils.

Child Welfare Centres.—(1) Where the child welfare centre is provided as part of the out-patient department of a hospital, state (*a*) the nature of the existing facilities, and (*b*) the new facilities proposed to be provided.

(2) Nature of arrangements for supplying milk and other foods, including patent foods and prepared or modified milk.

(3) Nature of provision to be made for practical instruction to mothers in regard to feeding and clothing of children and in mothercraft generally.

(4) Nature of opportunities for instruction of students, nurses, health visitors, and other pupils.

Day Nurseries, Kindergartens, Nursery Schools.—(1) The arrangements for the admission, care, and feeding of the children.

(2) The payments made by mothers (*a*) towards the cost of foods supplied to the children, and (*b*) generally for the care of the children.

(3) Where the nursery is a training school for nursery nurses, state (*a*) the number of pupils accommodated, and (*b*) the fees charged. Give also a short description of the course of instruction provided.

(4) As regards kindergartens and nursery schools, state opportunities for instruction of students, nurses, health visitors, and other pupils.

Note.—In the case of day nurseries, kindergartens, nursery schools, and similar educational centres, the Local Authority are concerned only with the superintendence of the health of the children, not with their education as such. (This is now modified by the Circular Public Health IX., 1917, section 7.)

IV. Non-residential Institutions of Voluntary Agencies to be utilised or proposed to be utilised by the Local Authority

Particulars under head III. apply here.

In addition, the name of the managing authorities of the institutions should be given and details of the arrangements made or proposed to be made by the Local Authority with such authorities.

V. Residential Institutions established or proposed to be established by the Local Authority

(1) Maternity hospitals; (2) hospitals for treatment of antenatal and postnatal complications; (3) sick children's hospitals; (4) convalescent homes for mothers and infants; (5) convalescent or country homes for children.

Note.—Particulars should be given as regards situation, accommodation and equipment, medical superintendence, and staff of each institution. In the case of convalescent or country homes for children, state what education is to be provided and by whom.

VI. Residential Institutions of Voluntary Agencies to be utilised or proposed to be utilised by the Local Authority

Particulars under head V. apply here.

In addition, the name of the managing authorities of the institutions should be given, and details of the arrangements made or proposed to be made by the Local Authority with such authorities.

VII. Scheme of Home Visitation of Expectant Mothers, Nursing Mothers, and Children up to Age Five

Particulars should be given of the arrangements proposed and of the staff to be employed.

VIII. Provision of Assistance in Confinement Cases at Home

Give details of arrangements proposed. (In this connection, see last paragraph of No. 2 of Regulations appended to Board's Memorandum of March 1916.)

IX. Schools for Mothers and Young Women

Give details of arrangements proposed.

X. List of Voluntary Institutions and Agencies in Area of Local Authority

(1) Names (with addresses of clerks or secretaries) of those included in Local Authority's scheme.

(2) Names (with addresses of clerks or secretaries) of those *not* included in Local Authority's scheme.

8. *Conclusion.*—Under these legal powers and administrative regulations, the Scottish Local Authorities continue to proceed with the preparation of their schemes. Of these schemes, few have yet received final approval in every detail; but the Board have adopted the policy of approving at once every positive proposal not inconsistent with a larger scheme. The result is that, in a large number of localities, work is proceeding under provisional approval, and the schemes are undergoing rapid elaboration along the lines indicated by local experience. Of the schemes actually or provisionally approved, I shall now give some types. In this matter, it is not possible to be exhaustive; because the Local Authorities all over Scotland are still engaged in discussing or in preparing schemes. But the types given are representative.

SCHEMES OF MATERNITY AND CHILD WELFARE

Addendum

1. *Edinburgh Infant Health Centres.*—Mrs Frances Johnston, M.D., has kindly furnished me with two photographs to indicate the equipment of the Edinburgh Infant Health Centres. In a paper read before the Edinburgh Pathological Club and reprinted in the special group of publications published by the *Edinburgh Medical Journal*, May 1917, Mrs Johnston writes :—

" Out of this survey emerge four things toward which an adequate scheme of prevention should direct its aim :—

" 1. To attack inanition, malnutrition, and marasmus at their source—that is to say, to investigate nutrition from the standpoint of the infant's earliest needs both in intra-uterine and extra-uterine life.

" 2. To seek out the sources of gastro-enteritis and diarrhœa.

" 3. To discover some means of protecting the infant and young child from tuberculous infection.

" 4. To fortify the child against other and repeated infections of the respiratory tract as it begins to walk and onward.

" Are any of these impossible of achievement with the aid of the pathologist and bacteriologist, given sufficient thoroughness and definiteness of organisation ?

" The first step toward a serious attempt to carry out such a programme would be to bring the infant consultation within the reach of every mother, and to converge upon it the best assistance that can be had in determining how to help the child to adapt itself to its surroundings while in comparative health, and how to avoid the certain dangers ahead and to increase its resistance to them. Instead of the name infant consultations, it might simplify matters to call them dietetic clinics as defining their function more exactly.

" They should be housed in well-lighted, well-warmed, and airy rooms, with plenty of comfortable low seats and a place for the waiting prams. One small room should be reserved where the nurse may see a new baby when necessary, so that a suspicious cough or rash need not spread alarm, while the mother of a baby definitely ill, if she has no doctor, is told of a treatment hour under the same roof or sent to the nearest dispensary. A large room with convenient weighing arrangements, tables for registers and for demonstrations, must have space for talking to the mothers one at a time ; the doctor's room besides, and another small one for supplies.

" The business of the clinic is the nutrition of the child, its food supply, environment, clothing, etc., and its rate of growth and development. The earlier in its life the child is brought the better, and a dietetic clinic must necessarily be in touch with the maternity nurses of the district. An ante-partum clinic should be held in the same place at a different hour, with a dental service for expectant and nursing mothers.

" The conservation of breast-feeding, it goes without saying, is one of the first objects of the dietetic clinic, and it will take much effort in education, both of nurses and mothers, to bridge that dangerous gap between the last

visit of the maternity nurse to the mother and the first visit of the mother to the clinic, so often marked by abandonment of breast-feeding. Test feeds, temporary supplementary feeds, milk tests, the modus of helping a return of the milk, all these belong to the routine of the clinics, as well as the serious task of determining sources of early infection—an unsatisfactory umbilicus, for example. A small feeding ward, or, better still, a house with several small wards, two or three cots in each, for in-patient study of malnutrition, with a milk laboratory equipped with a staff of trained investigators, is an essential, if the difficult bottle-fed cases under three months are to have a chance for life. In such a ward definite experiments could be observed, and formulæ and preparations recommended to the clinics."

The paper expounds in some detail the methods employed in realising these objects. The following figures show the growth of the consultations established under the name of Edinburgh Infant Health Centres :—

Growth of the Consultations

787 babies made 3751 attendances in 1915.
1161 babies made 6325 attendances in 1916.
3769 following-up visits were paid to the mothers in their homes in 1916.
243 new babies have been registered since January 1917.
2296 attendances have been made since January 1917.
1283 following-up visits have been paid since January 1917.
97 average weekly attendance, January to April, 1916.
122 average weekly attendance, January to April, 1917.

The Milk Scheme

6580 quarts of milk have been sold at 4d. the quart to 135 mothers during the past six months, on the recommendation of the doctors.

The primary object of these infant health centres is to make a first scrutiny of the health condition in order that no time may be lost in securing correct medical attention when wanted. The centres are included as part of the Edinburgh scheme. The model centre shown when the Travelling Exhibition visited Edinburgh was one of the most appreciated demonstrations of health organisation.

Space forbids the reproduction of the various forms and striking growth charts sent me by Mrs Johnston. The localities of the health centres are shown in the account of the Edinburgh scheme. It should be noted that the centres deal not with the child alone, but with the mother and child as a unity. The centres, therefore, serve the double purpose of maternity and prematernity consultations and infant consultations.

2. *Other Clinics, Consultations, etc.*—In various chapters of this Report illustrations are to be found of the many institutions men-

tioned in the official memoranda : baby clinics, child clinics, school clinics, maternity consultation centres, maternity and prematernity consultation centres, out-patient departments, dispensaries, etc. The part each of these institutions plays in a comprehensive scheme of maternity and child welfare may be gathered from the condensed sketch of the Edinburgh scheme, read along with the descriptive accounts given in the other chapters. The Local Government Board, in framing an outline of possible schemes, kept in view the fact that institutions of all the types named were actually to be found in many localities and formed the necessary groundwork for the correlation of the services. The schemes are not mere projections of utopian ideas, or even of ideas unrealised but known to be perfectly practicable ; they rest on a basis of experience and, in the main, aim at the correlation of existing agencies rather than at the creation of new institutions. Incidentally, new institutions are found necessary ; but the lines of possible growth reveal themselves as existing institutions pass into more intimate working relation with the official bodies.

CHAPTER L

THE EDINBURGH SCHEME

1. *The Functional Elements of the Scheme.*—Perhaps, in presenting so many official documents, I am guilty of over-elaboration. But every document is practical; every item in each has a definite purpose; the whole sequence shows how complicated and difficult it is to frame a really comprehensive scheme of maternity and child welfare. But the Edinburgh scheme shows how those complications and difficulties may be overcome. Edinburgh, it is true, is exceptionally placed. It has a great medical school; it is generously provided with hospitals, both for adults and for children; it has a maternity hospital and homes; it has numerous dispensaries and health centres. These are all medical. But the city also has day nurseries, open-air play centres, and at least one holiday village for children. It has certain homes and special schools for cripple children, a shelter for neglected children, and some other institutions of related function. Its educational bias is reflected in the free kindergartens and children's gardens. In all, we have, by direct inquiry, traced some forty Edinburgh institutions that deal with mothers or children or both. Many of these are small, but none of them is unimportant. Every institution, big or little, follows out its own special purpose and rests on its own organisation. The variety of institutions is extraordinary. Hardly a phase of maternity or child welfare remains unrepresented. If it is pre-school education, you have the kindergartens and children's gardens; if it is preventive medicine, you have the health centres; if it is impaired health, you have the holiday homes; if it is sickness, you have the dispensaries and the sick children's hospital; if it is maternity, you have the maternity hospital and homes. To these add the health visitors' association, the society for prevention of cruelty to children, the poor law institutions, the hospital for infectious diseases.

Many of these institutions and organisations, the Edinburgh scheme brings into a working synthesis. The scheme has not yet reached its full development; but even at its present stage it shows

the great variety and potency of the city's resources. The scheme, as prepared by Dr Maxwell Williamson, Medical Officer of Health, and passed by the Town Council, deserves the closest study. It is only in a city with great educational traditions that such a scheme is possible. It is only in a city where the civic impulse has reached a high level that such a scheme can become actual. I do not, therefore, apologise for sketching the Edinburgh scheme somewhat fully. Possibly, here and there, details may be modified; but already, I learn, all the institutions are actively at work; the pressure of demand at the various centres is already felt; the staffs are fully occupied in developing the new organisation. The experience of the Medical Officer of Health, so I am assured, overwhelmingly justifies the city's expectations.

This general statement may serve to guide the reading of the very condensed sketch of the scheme given below. If more details are wanted, some of our other chapters may furnish some of them; but for students of the scheme as a whole nothing could be better than the report prepared by Dr Maxwell Williamson for the Local Authority. This report, indeed, ought to be expanded and produced in a cheap form as a handbook for the many workers in the scheme and as a book of information for all others interested.

SCHEME OF MATERNITY SERVICE AND CHILD WELFARE

SUBMITTED BY THE LOCAL AUTHORITY FOR THE CITY OF EDINBURGH

I. General Statistics of District

Population (Census 1911) 320,318
Population under five years of age (Census 1911) . . 29,012

Year.	Birth-Rate.	Number of Births.	Number of Stillbirths.	Deaths under one year.	Deaths under one year per thousand Births.	Deaths under five years.
1912	19·7	6346	309	702	110	1041
1913	19·4	6243	275	631	101	983
1914	19·8	6466	276	709	110	1138
1915	17·8	5851	272	774	132	1279
1916	17·4	5748	255	575	100	910

II. Administrative and Executive Staff

(1) Medical officers.—One, the Medical Officer of Health.
(2) Health visitors.—About 300 voluntary health visitors.

(3) Nurses.—One superintending and ten district nurses.
(4) Inspectors of midwives.—One, who will be the superintending nurse.
(5) Midwives.
(6) Other officers.—A superintendent of office staff and three clerkesses.

Salaries :—

Medical officer, £200 per annum (proportion of existing salary of Medical Officer of Health).
Superintending nurse, £140 per annum.
Ten nurses, £85, rising to £110.
Superintendent of office staff, £130, rising to £140.
Three clerkesses, two at £72, rising to £80 ; one at £52, rising to £80.

III. Non-Residential Institutions to be provided by the Local Authority (mainly by Arrangement with Existing Institutions or Societies)

(1) *Maternity Centres*

(*a*) *Royal Maternity Hospital, Lauriston.*—An addition is to be made to the existing building, and maternity clinics will be held twice weekly. Bed accommodation will be provided in the hospital as necessity requires.

(*b*) Antenatal consultations will be held at :—Hospice, 219 High Street—Thursdays ; 25 Grove Street—Wednesdays ; 1 Wheatfield Road, Gorgie—Thursdays ; Royal Public Dispensary, West Richmond Street ; Western Dispensary, Riego Street ; Provident Dispensary, Marshall Street ; Medical Mission Dispensary, Cowgate ; Deaconess Hospital, St Leonard's ; Dunbar's Close Dispensary, High Street.

(2) *Child Welfare Centres for Children from Birth to Age Five*

(*a*) *Royal Hospital for Sick Children.*—Here a clinic will be held each afternoon, and, in addition, all the more serious cases—which at other times would be attended to by various dispensaries in the city or not attended to at all—will be sent to this centre for consultative and, if necessary, indoor treatment.

(*b*) *Various Child Centres* for children from birth to age five including :—

Hospice, 219 High Street. Preventive consultations twice weekly (Tuesday and Friday).
25 Grove Street. Preventive consultations twice weekly (Monday and Thursday).
1 Wheatfield Road, Gorgie. Preventive consultations once weekly (Friday).
60 Pleasance. Preventive consultations twice weekly (Monday and Thursday).
St. Bernard's Hall, Stockbridge. Preventive consultations once weekly (Tuesday).
Dunbar's Close, Canongate.

(*c*) *Consultative work and Home Visitation.*—Days to be yet selected.

(*d*) *Curative Consultations* are also held in these institutions as follows :—

Hospice, 219 High Street (Thursday).
25 Grove Street (Friday).
1 Wheatfield Road, Gorgie (Monday).

THE EDINBURGH SCHEME

(3) *Various Dispensaries where Consultations will be held, and from which Visiting will take place*

Royal Public Dispensary, West Richmond Street.
Western Dispensary, Riego Street.
Provident Dispensary, Marshall Street.
Medical Mission Dispensary, Cowgate.
Deaconess Hospital, St. Leonard's.

In all these institutions consultative days will be specially arranged, and visiting at the homes will be carried out from them.

(4) *Day Nurseries*

69 Dumbiedykes Road.
4 Grove Street.
Danube Street.
Sciennes.

(5) *Kindergartens, Nursery Schools, and Organised Play Centres*

St Saviour's Child Garden, Chessel's Court.
Provincial Council's Kindergarten, Gilmore Place.
Hope Cottage Child Garden, Middleby Street.
East Adam Street Child Garden, 12 East Adam Street.
Kindergarten, Reid's Court, Canongate.
Open-air Playground, 60 Pleasance.
Various Open-Air Playgrounds under Corporation.

(6) *Other Institutions*

An arrangement has been entered into with the Humbie Holiday Home, Humbie.

At the various dispensaries and at the two main centres (maternity and child welfare) there will be facilities offered for the instruction of pupils.

A supply of milk, most probably in the dried form, will be provided to all suitable cases from the various dispensaries, infant health centres, and from the office centre.

Arrangements are also in course of being completed for the feeding of suitable cases among nursing mothers.

There already exist in this city facilities under the School Board for practical instruction to mothers, and these will be supplemented at the various health centres, which, being of a preventive nature, are specially charged with the duty of giving instruction in regard to feeding and clothing of children.

Arrangements have been made with the various day nurseries, kindergartens, and open-air playgrounds for the admission and care of all children sent to them by the organised staff in connection with this scheme.

IV. Non-Residential Institutions of Voluntary Agencies (other than those named above) to be utilised or proposed to be utilised by the Local Authority

Existing agencies will be utilised to the fullest possible extent. Thus, the visiting staff of the Royal Jubilee Nurses' Institute will be asked to report

all cases requiring the attention of the organised staff. The Parish Council, School Board, and visitors of other agencies will be asked to forward to the official centre at the Public Health Department information regarding all cases requiring supervision or treatment.

V. Residential Institutions established or proposed to be established by the Local Authority (meanwhile by Arrangement with existing Agencies)

(1) Maternity hospitals.
(2) Hospitals for treatment of antenatal and postnatal complications.
(3) Sick children's hospitals.
(4) Convalescent homes for mothers and infants.
(5) Convalescent or country homes for children.

Arrangements have been made in regard to each class of institution contained in the foregoing list.

VI. Residential Institutions of Voluntary Agencies to be utilised or proposed to be utilised by the Local Authority

The financial arrangements have already been completed for the institutions involved ; negotiations are being carried out with others.

Royal Maternity Hospital	£200
Cowgate Dispensary	100
Humbie Holiday Home	50
Five Kindergartens, each £20	100
Day nurseries	100
Infant Health Centres—total expenditure incurred by them	753
Dispensary in connection with Women's Hospital	250

VII. Scheme of Home Visitation of Expectant Mothers, Nursing Mothers and Children up to Age Five

A superintendent nurse and ten nurses will be assisted by a large staff of voluntary health visitors in carrying out this work. For this purpose the city will be divided into districts and a certain number—official and voluntary—relegated to each. Mothers and children—the former, if an expectant mother or suffering from ailments of motherhood ; the latter, if apparently sickly and requiring attention—will, in the absence of a regular medical attendant, be required to attend at the " centre " in their immediate district.

A card will be given with information of day and hour, and a nurse will be in attendance at the particular clinic in order to ensure that attendance is made, and in order to become acquainted with the orders of the doctor in that particular centre.

The homes will be subsequently visited and supervision will be exercised over the carrying out of the medical instructions.

Careful records will be preserved in all cases of illness, and any case requiring attention at a special institution such as a tuberculosis dispensary, or requiring convalescent home residence, will be dealt with accordingly.

VIII. Provision of Assistance in Confinement Cases at Home

The various maternity centres and dispensaries will arrange for such attendance, so that no patient unable to obtain and pay for medical assistance need be left without such.

IX. Schools for Mothers and Young Women

These will remain in operation under the School Board, as have been so successfully carried out in this city for years.

2. *Prospective Developments.*—It will be interesting to see how this great scheme develops. A piece of administrative machinery so complicated always has its surprises. The forecast never quite fits the reality. The institutions are all on their trial. Some will develop greater powers, others will dwindle. Which should be encouraged, which discarded, nothing but experience can tell. But this is a great beginning. The care of children has passed on to a higher civic plane.

Note.—Since the above was written, the city of Edinburgh has bought Gogar Burn House, which is to be used as a Convalescent Home for children in impaired health. The new home, it is estimated, will accommodate at least 150 children.

CHAPTER LI

THE GLASGOW SCHEME

1. *The Functional Elements of the Scheme.*—Glasgow problems differ so much from Edinburgh problems, both in kind and in degree, that no exact comparison between the two cities is possible. Glasgow, like Edinburgh, has a great medical school, large hospitals, maternity homes and hospital, infectious disease hospitals, dispensaries, and several other medical institutions. It has also some day nurseries, holiday homes, convalescent homes, cripple homes, and related institutions. The types of these have already been referred to in this Report. The medical work of the Glasgow School Board, too, is very extensive. There is a very large organisation for the medical inspection of school children, with clinics for treatment, many special schools and classes, open-air schools and playgrounds. But practically all the School Board institutions limit their work to children of school age. For children of the pre-school ages it cannot be said that, except for infants under one, the actual or proposed organisation for Glasgow is proportionally equal to the proposed organisation for Edinburgh. The difference arises from many causes. The size of the city, the types of industry, the difficulties of transit, the peculiar congestions of housing, the rapid expansion of the city boundary—these and many other circumstances show that the whole civic organisation of Glasgow has, for more than one generation, been in a state of constant flux. From our original sketch of the midland valley, this is what we should expect. Everything indicates that Glasgow will go on growing. But a city growing so rapidly and absorbing so many suburban towns has difficulty in making its institutions keep pace with its needs. Already its population approaches to one-fourth of the whole of Scotland, and this vast population is under the management of a single city council. Those that have studied the works of Dr James Burn Russell, formerly Medical Officer of Health for Glasgow and afterwards Medical Member of the Local Government Board, have no difficulty in understanding or appreciating the terrible problems that must continue to con-

front the city of Glasgow in every branch of its many activities—not least in the provision for its mothers and children. But from the gigantic problems solved by Glasgow within the last century we may infer that, when her full civic resources are concentrated on the provision for mothers and children, the result will be as striking in this field as it has been in the others.

For several years Glasgow has taken active measures to reduce her infantile mortality. These measures are illustrated in many of the tables and records quoted in other parts of this Report. In this work Glasgow spent some £3000 in the year 1915–16. But this is only a small section of the work yet to be organised. By the Census of 1911 Glasgow had 115,519 children under five. This is rather more than a fifth of the whole under-five population of Scotland, which amounted to 532,745. For convenience, let us take the present figure as 116,000 children under five. It is for this enormous population that the Glasgow maternity and child welfare scheme must now provide. Contrast the numbers with the Edinburgh numbers. The Edinburgh under-five population is slightly less than 30,000. For the curative and preventive work necessary for this population, Edinburgh has provided the large staff of nurses, health visitors, and medical service shown in the Edinburgh scheme. For instance, Edinburgh, with its population of less than 30,000 children under five, provides a whole-time official staff of some twelve nurses or health visitors. Glasgow, with its population of 116,000 children under five, provides a whole-time staff of twelve nurses or health visitors, along with three lady doctors. Proportionally, therefore, Edinburgh has provided a much larger staff of nurses or health visitors than Glasgow and a much larger number of institutions. But the Glasgow scheme is still under consideration and may be materially extended. Up to the present, the Glasgow public health staff has concentrated itself almost exclusively on the infants under one, a total of some 27,000. But the Local Authority has now to contemplate population at least four times as large—some 116,000. The number of Glasgow institutions dealing with mothers and children is large, and, no doubt, in the course of time they will all find some function in the maternity and child welfare scheme of the Municipality. But where the populations are so great, where the conditions of labour are so complicated, where the distances are so large a factor, the process of organisation is necessarily slow.

Accordingly, although I now reproduce the substance of the scheme submitted for consideration by Glasgow, I do so with the reservation that the city has in contemplation a wider scheme. One item, however, it is worth while to emphasise. Among the institutions not included in the scheme I find the Phœnix Park Kindergarten, a small institution with some thirty children on the roll. Our investigators have made a somewhat extended inquiry as to kindergartens and play centres for children under five; but, with the exception of the day nurseries referred to already and the Phœnix Park Kindergarten, they have not been informed of any other such educational institutions. In a city population of over a million, it is practically certain that other institutions of the same kind must exist; but, on inquiry at various officials, we have not been able to discover them. In this respect the city of Edinburgh has an advantage. The Edinburgh scheme includes some five kindergartens and some three or four playgrounds for children under five—toddlers' playgrounds. There is, thus, abundant room in the Glasgow scheme for the establishment of a large number of small kindergartens. From what we have seen of the need for open play places, such as play centres and children's gardens, the need of an increased number of such institutions in Glasgow is not open to question. In this Report, whether in the matter of infant mortality, or of diseases of children under five generally, or in housing, Glasgow furnishes us with massed quantities that prove overwhelmingly the magnitude of her problems. These records, as they are published year by year in the reports of the Medical Officer of Health, show on what lines a scheme of infant welfare will ultimately develop.

Another difference between the Glasgow and the Edinburgh scheme is that, while in Edinburgh the teaching incidental to the infant health centres and other institutions is supplemented by an arrangement with the Edinburgh School Board, there is no such arrangement between the city of Glasgow and the Glasgow School Board. Of the Glasgow continuation classes for mothers I have no special information, but I understand that the School Board does a great deal of work on lines similar to the work of the Edinburgh School Board.

With these provisional qualifications, I reproduce the scheme already prepared by the city of Glasgow.

THE GLASGOW SCHEME

SCHEME OF MATERNITY SERVICE AND CHILD WELFARE FOR THE CITY OF GLASGOW

I. General Statistics of District

	Area before Extension, 1912.		Present Area..			
	1911.	1912.	1913.	1914.	1915.	1916.
(1) Population of district (Census 1911) :						
Area before extension, 1912 .	784,496	..	..	..	..	..
Present area .	1,008,487	..	..	..	..	..
(2) Population of district (Census 1911)—five years :						
Area before extension, 1912 .	86,145	..	..	..	..	..
Present Area . .	115,519	..	..	..	..	..
(3) Number of births .	21,569	21,850	28,691	29,462	27,943	27,348
(4) Birth-rate . .	27·6	27·9	27·9	28·0	26·0	25·0
(5) No information .	..	..	..	..	..	..
(6) Number of deaths under one year .	2,964	2,686	3,707	3,913	4,007	2,994
(7) Deaths under one year per thousand births	137	123	129	133	143	109
(8) Number of deaths under five years .	4,864	4,483	6,133	6,197	7,158	..

II. Administrative and Executive Staff

(1) Three female medical officers under the direction of the Medical Officer of Health : (1) Dr Barbara Sutherland, (2) Dr Katherine S. Macphail, (3) Dr Isabel S. Thomson. Salaries £350, £200, and £300. (Two-thirds of this £200 is being paid to a doctor who is on service.) The third doctor is at present a substitute.

(2) Twelve health visitors (nurses), salaries £85 to £120.

(3) All have maternity certificates and most are trained nurses. A statement of the names, qualifications, etc., of the nurses is annexed (not reproduced).

(4) The medical and nursing staff will act as inspectors of midwives under the supervision of lady doctors and Medical Officer of Health.

(5) No municipal midwives.

(6) Clerks : one first grade female clerk, salary £90 to £120; four second grade female clerks, salary £25 to £85; two dispensary clerkesses, salary £52, with uniform.

A war bonus at the rate of 2s. per week is also paid to all female employees whose salaries do not exceed £250.

III. Non-Residential Institutions provided or to be provided by the Local Authority

Infant and child consultations, fourteen in number, viz. :—

Kinning Park Hall, West Scotland Street.
7 Franklin Street.
Sanitary Chambers.
181 Claythorn Street.
77 Port Street, Anderston.
Ruchill U.F. Church Hall.
Town Hall, Merryland Street, Govan.
168 Garngad Hill.
Hill Street Hall, Shettleston.
90 Hospital Street, Gorbals.
87 Campbellfield Street.
15 Peel Street, Partick.
46 White Street, Govan.
416 Dobbie's Loan.

At present these deal with infants only, but their extension to older children will be regulated when the full value of the other dispensaries has been ascertained.

The Corporation have under consideration the establishing of a crèche in one of the public parks.

Milk is allowed for mothers and babies in necessitous cases by the doctors, while an annual grant of £75 is given to the Glasgow Infant Health Visitors' Association for similar purposes.

IV. Non-Residential Institutions of Voluntary Agencies to be utilised or proposed to be utilised by the Local Authority

(1) (*a*) Antenatal clinic of the Royal Maternity Hospital.
(*b*) Antenatal clinic of the Nurses' Training Home, Govan.
(2) (*a*) Dispensary of the Royal Hospital for Sick Children.
(*b*) Consultation centre for children under five at the Elder Cottage Hospital, Govan, which will include special diets for eyes, throat, nose, and teeth.
(*c*) Infant dispensary at Maternity Hospital, primarily for infants both under their indoor and outdoor clinics.

(3) Dispensary at the Royal Hospital for Sick Children will probably become a special treatment centre.

(4) Nurseries of Glasgow Day Nurseries Association situated at :—

83 Port Street, Anderston.
21 Dalmarnock Road, Bridgeton.
132 Adelphi Street, Hutchesontown.
42 Windsor Terrace, Milton.
6 Wilson Street, Partick.
2 Leyden Street, Maryhill.

In respect of the maintenance of an antenatal clinic and infant dispensary at the Royal Maternity Hospital, and also the provision of twenty-five beds

for antenatal cases requiring indoor treatment, the Local Authority are to pay the directors of the Royal Maternity Hospital the sum of £1000 per annum as from 1st March 1917. No terms and conditions have so far been arranged in respect of the services to be provided at the Nurses' Training Home, Govan, the Elder Cottage Hospital, Govan, and the Dispensary of the Royal Hospital for Sick Children. A sum of £50 per annum is paid to the Glasgow Day Nurseries Association.

V. Residential Institutions established or proposed to be established by the Local Authority

Local Authority Hospitals for the treatment of cases of puerperal fever and infectious diseases of children.

VI. Residential Institutions of Voluntary Agencies to be utilised or proposed to be utilised by the Local Authority

(1) (*a*) Royal Maternity Hospital.
(*b*) Nurses' Training Home, Govan, and a few beds at Elder Cottage Hospital for Children.
(2) Sick Children's Hospital.
(3) Shandon Convalescent Home for Mothers and Infants (through the Maternity Hospital.)
(4) Use of Convalescent Homes under Fresh Air Fortnight Association will be considered.

VII. Scheme of Home Visitation of Expectant Mothers, Nursing Mothers, and Children up to Age Five

Nursing mothers and children to be visited by health visitors, twelve in number, of the department (as stated above). This staff to be increased as required.

Certain cases not requiring further nursing attention are forwarded to the Glasgow Infant Health Visitors' Association, who continue visitation. The number of members of this association varies between 350 and 600, and the annual number of children at present being visited by them averages fully 3000. The expenses of the Glasgow Infant Health Visitors' Association will be paid by the Local Authority.

VIII. Provision of Assistance in Confinement Cases at Home

Nothing at present till ability of existing provision to meet the demand has been ascertained.

IX. Schools for Mothers and Young Women

Until the dispensaries are more completely organised and the present pressure in personnel relaxed, no steps will be taken to provide schools for mothers and young women.

X. List of Voluntary Institutions and Agencies in Area of Local Authority

(Not reproduced.)

2. *Conclusion.*—In various parts of this Report will be found descriptions of Glasgow institutions dealing with women and children. Some of these are included in the Glasgow scheme. Many others are excluded. No effort has been made to give an exhaustive account either of the institutions included or of the institutions excluded. All that is possible within the limits of space is to indicate the magnitude of the Glasgow problems and the broad lines of approach to their solution.

CHAPTER LII

THE DUNDEE SCHEME

1. *The Functional Elements of the Scheme.*—The city of Dundee has done a great deal of work in infant welfare. In other chapters we have shown how peculiarly intense her problems of motherhood and childhood are, what types of institution have been involved, and how the various organisations for child welfare are working. In the scheme prepared by Dr Templeman, Medical Officer of Health, the institutions provided by the city or by voluntary effort all play some part. The scheme, however, has not been fully developed. It is still under the consideration of the Local Authority. With this qualification I reproduce Dr Templeman's report.

REPORT TO THE TOWN COUNCIL OF DUNDEE ON SCHEME OF MATERNITY AND CHILD WELFARE

I beg herewith to submit for your consideration the outlines of a scheme dealing with infant and child welfare drawn up in accordance with the Memorandum of the Local Government Board.

I. Local Supervision of Midwives

This will be carried out by the inspector of midwives, acting under the superintendence of the Medical Officer of Health.

II. Arrangements for Antenatal Work

About one-fourth of the births in Dundee are attended from the Maternity Hospital. When an expectant mother gives in her name for assistance at birth, she is interrogated by the sister in charge as to her health, her experience in previous confinements, and in every case a sample of urine is obtained and examined. Where anything suspicious or abnormal is found, she is asked to attend the hospital for a more thorough examination by one of the visiting medical officers. If necessary, she is admitted into the prematernity ward, in which there are fifteen beds.

Antenatal Clinic

It is proposed that the inspector of midwives, keeping in touch with the midwives themselves, will get them to send any woman who engages them, and whose health is in any way abnormal, to the antenatal clinic to be held

in the central premises in Victoria Road; and where the medical officer considers it necessary such cases will be transferred to the prematernity ward in the Maternity Hospital.

Maternity Hospital

The Maternity Hospital is always available for complicated cases of pregnancy.

Feeding of Expectant Mothers

Expectant mothers, when necessary, will also be provided with dinners, either at a small charge or gratuitously in necessitous cases, at the restaurants for nursing mothers.

III. Attendance at Confinement

As regards the attendance on women at their own homes, the work of the midwives will be supervised by our inspector.

All cases desiring attendance at their own homes can procure such from the Maternity Hospital, and these confinements are all supervised by a trained and experienced midwife. When necessary, the medical officer of the district is called in, and any with serious complications are seen by one of the visiting medical officers, or removed to the Maternity Hospital.

IV. Postnatal Work

It has been decided to increase the staff of health visitors to five.

Home Visiting

In all cases where it is considered advisable, the home will be visited by one of the health visitors, and the child kept under observation during the first twelve months. In this work it is hoped that the municipal visitors will be assisted by the voluntary workers belonging to the Social Union, and in this way all young children will be kept under observation.

In connection with outbreaks of measles and whooping-cough, which are so fatal to children under five years of age, the Local Authority has empowered the Medical Officer of Health to engage the services of trained nurses to visit these children in their homes, and to advise the mothers as to the steps necessary for the prevention of complications, and as to precautions for preventing the spreading of the disease. In this way it is hoped that the mortality of these diseases will be materially reduced.

Baby Clinics

There will be four baby clinics—a central one in Victoria Road, one situated in the East and one in the West End of the town, and one in Lochee.

To these all mothers will be asked to come and bring their infants to be weighed, and, when necessary, to receive medical or other advice. This work will be carried on by and under the supervision of a lady doctor, specially qualified in this work, and who will give her whole time to it.

The central clinic will be open on two days a week, and the medical

officer will be in attendance. The district clinics will also be open on two days a week—on one day the medical officer will be in attendance, and on the other day the health visitor for the district will be there for the weighing of infants, and, when necessary, anyone requiring medical attention will be sent to the clinic at which the medical officer is present.

Cases which are not under the care of any medical practitioner in their own homes will be visited, when necessary, by the doctor in charge of the clinic. It is to be hoped that, at the district clinics, we will also have the assistance of the voluntary workers belonging to the Social Union.

Infant Hospital

Cases, especially those of malnutrition, requiring special treatment, which cannot be given either at the clinic or at their own homes, will be sent to the Dundee Infant Hospital—an institution consisting of twenty beds, which has been provided by the ladies of the city, and which is being tried as an experiment for three years.

Restaurants for Nursing Mothers

The work of the restaurants for nursing mothers will, it is hoped, be carried on as hitherto.

Classes for Mothers

Classes for mothers will be held in the clinics, and it is hoped that this work will be carried on largely by the voluntary workers—the health visitor of the district, or the medical officer in charge, taking occasion to have talks with the mothers on the preservation of their own health and also the health of infants.

Children between One and Five Years of Age

As regards the care of children under the age of five, provision has already been made in the shape of a special children's clinic, held twice a week at the Royal Infirmary, where medical cases are dealt with, and at the out-patient department, which is open every day, where surgical cases receive attention.

While it is advisable that all children between the ages of one and five should be examined from time to time, this will, at first, not be practicable ; but the health visitors and the voluntary workers, in visiting the homes, will direct their attention to children of this age, and these will either be referred to their own medical attendant for inspection, sent to the children's clinics at the Royal Infirmary, or be examined by the medical officer at our own clinic in Victoria Road.

Hospital Treatment for Children

There are, in the Royal Infirmary, two wards for children under ten years. Thirty-two beds have been set apart for the treatment of medical cases, and forty-two for surgical cases.

Continuation Classes

For several years the School Board have been conducting classes for married women as part of their continuation course. These are held at three

centres, and deal with such matters as personal health, simple and economic cookery, and the hygiene of infancy, with special reference to feeding; and it is proposed that this should be carried on as hitherto.

Day Nurseries

There are five day nurseries in the city, to which the municipality give an annual grant of £110.

These receive children up to the age of six years on the payment of 3d., or, for an infant under one year, 4d. per day.

All children before admission are medically examined, and if any afterwards require attention, this is provided by the medical officer attached to the day nursery. The children attending the day nursery will also be periodically inspected by the medical officer of the clinic.

Encouragement is given to mothers who suckle their infants to come during their diet hour for this purpose.

This scheme will provide a health record of all children, and will be supplemented as regards the infectious diseases by the records kept by the Public Health Department. This record can be sent on to the School Medical Officer when the child passes under his supervision.

2. *Conclusion.*—In Dundee the chief problem is the conditions of labour of the expectant and nursing mothers. The children, as we have seen, suffer no less than the mothers. The institutions that have sprung up spontaneously or have been provided or are supported by the Town Council take their colour from the nature of the labour problem. No doubt, as the scheme grows into the social structure, it will adapt itself more and more adequately to the peculiar needs of the city.

Note.—Since the above was written, the city of Dundee has added materially to the elements of the scheme.

CHAPTER LIII

THE ABERDEEN SCHEME

1. *The Possible Elements of the Scheme.*—The city of Aberdeen has not as yet submitted a formal scheme of maternity and child welfare under the powers of the new Act. But, for several years, the city has had a well-organised system of welfare for infants under one. At present special circumstances make the organisation of a complete scheme somewhat difficult. But I learn from Professor Hay that, as soon as circumstances permit, the present administration will be extended to include full provision for maternity service, outdoor and indoor, for medical supervision and treatment of children under five, for the development of play centres for the healthy, and for the establishment of convalescent homes for the ailing. The city will probably utilise to the fullest extent the new Sick Children's Hospital, the Maternity Hospital, the professional staff of the Dispensary and the out-patient department of the Royal Infirmary. From the existing organisation for the home supervision of infants under one, and from our notes on the work of the Sick Children's Hospital and Maternity Hospital, it is easy to infer that, under the direction of Professor Hay, all the elements of a comprehensive scheme will rapidly find their place. It may be assumed that existing agencies will be developed, or supplemented by others, until the objects sketched in the Board's Memoranda are attained.

Meanwhile, to show how the existing welfare department is worked in Aberdeen, I print some descriptive notes kindly sent me by Professor Hay, who has furnished also a complete set of his administrative circular letters, record cards, instructions, and leaflets. These form an exceptionally complete sequence; but I regret that space forbids its reproduction. The descriptive notes, however, will serve to indicate the administrative mechanism of this department.

Professor Hay's special design of card index cabinet for the use of health visitors deserves detailed attention. He has furnished me with a photograph (reproduced on p. xxiv of the illustrations). The descriptive notes are prepared by Dr Mary Menzies. This card

index cabinet has been carefully thought out for its specific purposes. From direct inquiry, I know that the cabinet has been found of immense convenience in economising the energies of the health visitors while enabling them to keep complete and orderly records. In this department, Professor Hay shows the same extraordinary simplicity and effectiveness of system as in his records of tuberculosis work in the city hospital. I have seen several methods of preserving such records, but I have seen none to surpass Professor Hay's in exhaustiveness and in simplicity of arrangement and reference.

In his contribution on the training of health visitors, Professor Hay sketches a curriculum to form the basis of a health visitor's career. His many suggestions take origin from his actual experience of the work in his own department. I also reproduce notes by Professor Hay on his steriliser, of which he has been good enough to furnish me with a photograph (p. xxiv).

Brief Note of Existing Arrangements and System; with Forms and Records

A. *In General Office of Health Department*

(1) Notification forms ((*a*) for doctors; (*b*) for midwives and others) under Notification of Births Act. (With special note on doctor's form as to whether visitation is, in his opinion, unnecessary.)

(2) Daily return of births from registrar of each district (for discovery of omitted notifications).

(3) Letter to parents who have omitted to notify.

(4) Circular regarding requirements as to notification (sent along with No. 3).

(5) Cards (*a* and *b*) for entry of notifications or registrations as received, and for transmission to health visitors' department. Cards used in this department also as index cards, and then only a few headings filled in, but on occasion used also for rapid special inquiries regarding certain matters, such as a high prevalence of pneumonia or of diarrhœa in a district, the inquiry being often taken part in by the assistant sanitary inspectors as well as the health visitors, so as to get the required information without delay, with a view to such action as may be practicable. (Cards of late notifications differently coloured.)

(6) Cards for still births.

(7) Office register of all births.

B. *In Health Visitors' Department*

Work here begins with card No. 5.

(8) Card for record of inquiries and visits regarding each infant. (Cards for legitimate and illegitimate cases distinguished by colour.) Each visitor is provided with a portable spring balance for weighing, the accuracy of the

balances being tested periodically. The rule is for health visitors to visit as soon as possible after the tenth day from birth :—

(*a*) All children born in houses of three rooms or under ; or in certain cases in larger houses, if visitation believed to be necessary—provided that medical attendant has not indicated that he did not desire a visit to be made.

(*b*) All children delivered by midwives.

(*c*) All illegitimate children, subject to the medical attendant not objecting.

Under the foregoing rule about three-fourths of all newly-born children are being visited—many repeatedly over many months. The total number of visits in recent months has been equivalent to about 35,000 a year.

(9) Corresponding card kept by mother, and filled in at each visit by health visitor, and weight chart kept going. This card is very useful to medical men when called in to see a sick child, as showing the previous state of health. It is practically always carefully preserved by the mothers.

(10) Leaflet of instructions for breast-fed children.

(11) Leaflet of instructions for bottle-fed children. (Special feeding bottles, made for the health department, are supplied, along with teats, at cost price, or, in the case of poor mothers, gratuitously.)

(12) Card of instructions for sterilising milk. (A specially designed sterilising can is sold or lent where necessary.)

(13) Note to mother regarding nearest mothers' and babies' club. Given in suitable cases.

(14) Card of hours of clinics for mothers and infants at Maternity Hospital. Given where considered necessary.

(15) Metal checks for gratuitous meals at soup kitchen, supplied by committee in charge of kitchen, and distributed to necessitous mothers.

(16) Card for reporting sanitary defects in house.

(17) Book of daily visitations by health visitors.

(18) Card for inquiries regarding all deaths within four weeks after child-birth, and of deaths during pregnancy so far as known. The registrars are instructed to notify all such deaths on registration.

C. *Guild of Voluntary Visitors*

About sixty to seventy such visitors, who assist the ordinary health visitors in the visitation more especially of the less difficult cases, but only after the case has been first visited by a health visitor and Card 8 filled up.

(19) Record card for visitors. Filled in by health visitors at beginning. Returned to department at close of visits by guild visitor. A mother's card is kept as under No. 9.

(20) Form for fortnightly report on each child by guild visitor to health visitors' department. The information is transferred to Card No. 8.

D. *Mothers' and Babies' Clubs*

There are at present five clubs, with one principal or central club. They meet once a week, and are each run by a committee of ladies, with the assistance of the health visitors for the district. Each has an honorary medical

officer. Examinations and weighings of children are made, and hygienic advice given ; also simple remedies and foods such as cod-liver oil, virol, etc. Milk is also supplied in needful cases. Cases requiring more definite medical aid are recommended to care of family medical attendant, or to maternity hospital, or children's hospital (out-patient clinics), or public dispensary, or other appropriate medical institution. Expectant mothers attend club as well as others. Short lectures or demonstrations are given by qualified persons to the assembled mothers on personal and domestic hygiene, food and cookery, infant care, etc.

(21) Membership card and provident fund notes.

(22) Record card for infant, similar to No. 8, but kept in addition to No. 8, the information on the club card being transferred after each meeting of club to office card. The club cards are kept in order of enrolment and number (with which the number on membership card corresponds) in a portable wooden case, which is conveyed to the health visitors' meeting.

E. *Day Nursery*

For children whose mothers are wage-earners, or ill. Has accommodation for upwards of twenty children ; but additional accommodation, or fresh nurseries, much required. This is run by central committee in charge of clubs, and is supervised by an honorary medical officer. No special printed forms or cards. The weight charts of Nos. 8 or 9 are used in certain cases.

F. *Maternity Hospital Clinics.*

For mothers, infants, and young children. They have been in operation only since beginning of 1917, but are suffering from want of sufficient medical staff, owing to absence of large part of staff in war service.

(23) Antenatal card for antenatal cases.

(24) Natal cards.

(25) Child card.

These cards are in course of preparation by medical officer of health and the matron. A copy of the natal card is included among the preceding cards and forms.

G. *Clinics at other Medical Institutions*

Such institutions are the Hospital for Sick Children with its daily out-patient clinic in a part of the vacated hospital buildings adjacent to the Maternity Hospital. About 2000 patients are seen yearly. But the clinic is at present deficient in medical service, owing to the war.

There are also daily out-patient clinics, with certain special departments, at the Aberdeen Dispensary. Since the National Insurance Act became operative, the patients have mainly consisted of women and children. The medical staff also visit the poorer cases in their own homes, when necessary. The work here is also being restricted, particularly in certain of the special clinics, because of diminished medical service.

The gynecological department of the Royal Infirmary is also available for women ; and its special departments, such as the eye clinic, are freely resorted to by both mothers and children. The independent Eye Institution is also largely used for children.

THE ABERDEEN SCHEME

Card Index Cabinet

There is a framework within a cabinet, and cabinet projects fully one inch beyond framework in front. Outside measurement of cabinet—height, 23½ inches; length, 36½ inches; depth, about 8 inches, *i.e.* card depth + 1 inch.

The cabinet is made of 1-inch thick wood, and frame of about ½ to ¾-inch wood. The inside framework is divided into two by a horizontal partition, and into five by vertical partitions, making ten spaces in all. Each of these ten spaces contains six horizontal shelves (and therefore seven spaces), which are incomplete by about 1 in. behind and in front to avoid collection of dust, and to enable cards to be easily lifted off the shelves. These shelves are of three-ply wood.

On the horizontal-shelf partition there is in front of each vertical partition a porcelain slate on which the week dates can be written, and a socket for a brass pin which indicates the week on which the visitor is working. The brass pin has a red star on front of the head to make it more noticeable. There is a finger space cut out of the middle of each part of the horizontal partition to allow cards lying on it to be easily lifted off.

The ten spaces made by vertical partitions, five above and five below the horizontal partition, are for five weeks—five weeks each to two health visitors. The sub-divisions of these, into seven, are for the six working days and a space for cards temporarily out of use, *i.e.* the child in hospital, etc.

The main point in the measurements is, that the spaces must be just wide enough to allow the cards to slip out and in easily, and just deep enough to allow the front edge of the card to be in line with the framework within the cabinet.

Sterilising Can

Its features are (1) large enough to be only half-filled with milk when all milk for day put into it. Therefore milk (with its cream) can be mixed by swilling, and no stirrer is required, as in some other forms; (2) shape of handle allows can to be put easily within a kitchen pot, and the top part gives a fulcrum for hand in pulling out lid when it has to be opened; (3) spout covered with cap with a chain sufficiently short to prevent cap being soiled by touching table; (4) three good knobs on bottom of can to facilitate heating without bumping, as happens when no knobs.

A cap-covered spout and knobs are not novel, but there have been some little adjustments that make these and the can generally fairly suitable for its purpose.

The milk, after being sterilised, or virtually sterilised, by heating in the morning, keeps well for the remainder of the twenty-four hours, provided lid is not removed. The removal of the cap, if it is immediately afterwards replaced, does no perceptible harm within the period. A 4-oz. metal measure goes along with the can. The can cost, before the war, 1s. 3d. + 4d. per measure.

N.B.—Sterilised milk feeding is the best substitute for breast-feeding, but no form of bottle-feeding is so good as natural breast-feeding.

CITY OF ABERDEEN

PUBLIC HEALTH DEPARTMENT

Instructions for Preparing and Sterilising Milk for Babies

(For use with Sterilising Can approved by the Department[1])

Thorough Cleansing.—Thoroughly wash, and *scald* with boiling water—before each use—*all jugs, cans, bottles, feeders, teats, spoons, measures,* and *brushes* used in purchase and preparation of milk, and in feeding baby. In addition, *place all such articles once a day in pan of cold water and heat till water boils.* These precautions are necessary to remove and destroy all germs. The slightest want of cleanliness may cause illness in baby.

Pure Milk.—Buy only *pure, fresh, unskimmed milk,* and, if possible, direct from a dairy known to be scrupulously careful about cleanliness. Procure it in sealed bottles, or in thoroughly clean jug or can, with lid. *Always keep milk covered.*

Sterilisation.—Sterilise milk as soon as possible after it is received. The supply for whole day—but not more than one day—may be sterilised at once, and will remain sweet for twenty-four hours *if kept properly covered.*

[1] The Sterilising Can can be obtained from Public Health Department, 41½ Union Street.

Milk Mixture.—Make up *milk mixture* according to quantities in accompanying *Feeding Table*, the amount of *milk* being 6 *ounces daily for first week, with an additional ounce for every week of age afterwards.* Use boiled or boiling water. See that sterilising can is thoroughly clean, and free from traces of old milk.

Put the sugar and the water into the can, add the cream (if any), and finally the milk, and mix by a gentle swirling motion of the can, as of a teapot. No stirrer is necessary. Put on lid, and *do not remove lid* again, even for a second, until whole of day's supply has been used. Also *fix cover on spout.* Remove cover from spout only when pouring supply of milk into feeding-bottle, and replace cover immediately afterwards. See that cover is kept clean.

These precautions regarding lid of sterilising can and cover of spout are to keep out air and dust as far as possible. Dust often contains dangerous germs that may spoil the milk and cause illness in baby.

Heating.—Heat sterilising can and contents, with *closed lid and spout cover, in saucepan of water already actively boiling.* The water should be deep enough to surround can to about height of milk inside can. *Keep saucepan boiling for fifteen minutes.* The milk will be sufficiently heated to kill all dangerous germs.

Cooling.—Now remove can from saucepan, and *cool* in clean basin nearly filled with *clean cold water.* After ten minutes, the milk will usually be cool enough to provide for baby the first feed. Replace can in fresh quantity of cold water, and let stand for half-an-hour or more, *until milk is quite cold.* Germs may begin to grow in the milk, if kept warm. *The colder the milk is, the better will it keep.* Set aside in cool place or press, away from reach of children.

Feeding-bottle.—Do not use a feeding-bottle with a tube. The tube is difficult to clean, and becomes lined with putrefying curdled milk.

Pour each feed for baby direct into *feeding-bottle,* which, with *teat,* must always have been *thoroughly cleaned and scalded.* Gently shake or swirl milk in can before pouring out feed, so as to keep cream mixed with milk. A little shaking suffices, as cream of heated milk does not separate readily. The amount of feed and times of feeding vary with age. (See Feeding Table.)

Warming Feed.—Warm each feed by placing bottle in bowl of clean hot water for a few minutes. *Cold milk* is *dangerous* for babies. The feed should be at *blood heat.* It must, *on no account,* be *too hot;* otherwise mouth and stomach of baby will be injured.

Washing Bottles.—Never keep for next feed any milk left over from previous feed. *Immediately after each feed, thoroughly wash bottle and teat* with luke-warm water and with brush before milk has begun to dry. Then scald bottle and teat in bowl of boiling water and leave there until next wanted. Keep brush clean, and never apply it after bottle has been scalded. A little boracic acid or baking soda in water helps to dissolve off dried milk.

To ensure proper cleansing, it is advisable to procure *two bottles,* and use them alternately.

Regularity.—Cultivate regularity in times of feeding. (See Feeding Table.) It is greatly helpful in promoting the proper digestion of each feed, and in securing rest between feeds.

Feeding during the night is unnecessary, except, perhaps, in the first month.

Do not let baby suck too quickly or too long. Ten to twenty minutes should be allowed for each feed.

Other Food.—Give baby *nothing but milk* for *first seven to eight months;* and for at least eight months more, let milk be chief food.

After the first seven or eight months baby may receive, along with the sterilised milk, a little boiled bread and milk, or well-boiled oatmeal gruel (from finely-ground meal), beginning with small quantity. Later, milk puddings, well-boiled porridge and milk, boiled rusks and milk, small pieces of bread and butter, a little thin broth or soup, or bread crumbs soaked in red gravy may be given. Broth must not contain hard and partially-boiled vegetables.

After twelve months, a little soft-boiled egg may be added.

After eighteen months, a little boiled white fish, or a little bruised potatoes with gravy, or a little well-stewed fruit may be given.

Be very sparing in use of beef or other meat, and of sweets; and do not give cheese, or pastry, or tea.

Costiveness.—The bowels should move at least once daily. Bottle-fed babies are more liable to be costive than breast-fed babies. Addition of cream to milk helps in preventing costiveness. A tea-spoonful of cod liver oil or olive oil once a day is also useful; or barley water may be substituted for water in preparing the milk mixture.

THE ABERDEEN SCHEME

Barley water is made by boiling for five minutes a teaspoonful of powdered barley with a pint of water, and straining through clean and *scalded* muslin. Keep in a *covered* jug and make *fresh every day.*

Diarrhœa.—Add a tablespoonful of limewater to each feed. If diarrhœa continues, get medical advice.

The quantity of milk recommended is sufficient for average babies, but a few may require a little more milk. If baby is not thriving and not steadily increasing in weight, some change in the feeding may be necessary, about which medical advice should be obtained. The addition of citrate of soda, in the proportion of 2 grains to each ounce of milk, is often helpful in cases of imperfect digestion. *A healthy baby increases in weight by about 5 to 8 ounces a week.* After the first six months, the increase is not quite so rapid.

MATTHEW HAY, M.D.,
Medical Officer of Health.

FEEDING TABLE

Proportion of Milk and amount of Feed should be increased gradually

Age of Baby.	Milk Mixture.				Quantity of Each Feed.	Time of Feeding.	
	Milk.	Boiled Water.	Sugar.	Cream.		Day.	Night. 10 p.m. to 6 a.m.
During	Ounces	Ounces	Tea-spoonfuls	Ounces	Ounces about	Every	
1st Fortnight.	6	12	1½	1	1½ to 2	2½ hrs.	Once.
2nd ,, .	9	12	1½	1	2 ,, 2½	,,	
After							
1st Month .	12	12	2	1	3 ,, 3½	3 hrs.	None.
2nd ,, .	16	12	2	1½	3½ ,, 4	,,	
3rd ,, .	20	10	2	1½	4 ,, 5	3½ hrs.	
4th ,, .	24	8	2	1	5 ,, 6	,,	
5th ,, .	28	4	2	1	6 ,, 7	4 hrs.	
6th ,, .	32	0	1	1	6 ,, 7	,,	
7th ,, .	36	0	1	1	7	,,	
8th ,, .	40	0	1	1	8	,,	
9th ,, .	44	0	1	1	9	,,	

Two tablespoonfuls equal 1 ounce; one teacupful equals 5 ounces.

Cream need not be added where it cannot be afforded. In such case half to one teaspoonful of olive oil or cod-liver oil should be given daily, apart from milk.

One tablespoonful of limewater may be added to each feed in hot weather, or when diarrhœa threatens.

Keep all bottles, teats, spoons, brushes, jugs, cups, cans, and measures scrupulously clean, and always scald them after washing.

2. *Conclusion: Schemes in other Towns.*—The schemes or proposed schemes for the four large cities, I have thought it right to set forth with some circumstance; because in them the populations are greatest, the problems most specific, and the resources for administrative measures most adequate.

CHAPTER LIV

CLACKMANNAN COMBINATION SCHEME

1. *Elements of Scheme.*—The county of Clackmannan is here selected as a type, simply because it is the first town and county combination scheme to be formally completed and approved. But, on the merits, the scheme illustrates so many important administrative points that I have no hesitation in recording it in some detail. In the special study of the county and towns, Dr Ethel Cassie has shown broadly what the problems are. The administrative scheme shows how these problems are solved. A point of special administrative importance is the combination of the county and towns within it. In this matter, too, Clackmannan and its burghs are first. The Board's Order constituting the combination is too long to reproduce, but it shows all the functional elements of a combined town and county scheme in their working relations, their proportional representation, and their respective liabilities within the unitary scheme. Possibly, Clackmannan is exceptional in its facilities for transit, in the compactness of its area, in the highly developed individuality of its burghs, and, generally, in its possibilities for co-operative administration. That the interest of the county and the towns in the promotion of infant welfare runs at a high level has recently been shown by the welcome given to the Travelling Exhibition of Maternity and Child Welfare. All our information confirms the view that the combined scheme now established has every prospect of success. Many other counties are less favourably adapted for carrying through a combined scheme ; but, in the view of the Local Government Board, combination of small authorities is to be aimed at wherever possible. The intention is to secure a Local Authority or combination of authorities sufficiently large to employ and pay an adequate number of trained officers. Where this can be done, the voluntary services existing in the locality can be made much more fruitful in their activities.

COMBINATION SCHEME FOR MATERNAL AND CHILD WELFARE

As approved by the Local Authorities of the county of Clackmannan and the burghs of Alloa, Alva, Tillicoultry, and Dollar, under the Notification of Births Acts, 1907 and 1915, and the Midwives (Scotland) Act, 1915.

CLACKMANNAN COMBINATION SCHEME

I. The Central Committee

The administration of the scheme will be in the hands of the Central Committee and the Medical Officer of Health.

The Central Committee will consist of thirteen members, representing the Local Authorities, and made up as follows :—County Council, 4 ; Alloa Town Council, 4 ; Alva Town Council, 2 ; Tillicoultry Town Council, 2 ; Dollar Town Council, 1. A proportion of the representatives will be women.

The proportion between the Local Authorities as to representation and finance shall be calculated on the basis of the mean of population and valuation, and shall be on the same lines as the Infectious Diseases Hospital Committee, and may be reconsidered after intervals of not less than five years. Any member of the combination may terminate the agreement on giving one year's notice after a period of not less than four years, and that on conditions to be agreed on between the parties ; and failing such agreement, then upon terms and conditions to be fixed by the Local Government Board.

The powers and duties of the Local Authorities under the above Acts will be delegated to this Committee.

II. Administrative and Executive Staff

(1) *Medical Officer of Health* (part time).

Qualifications.—Medical Officer of Health.

Duties.—Supervision of the scheme in all its branches, including the keeping of records, registers, etc.

Salary and travelling allowance, £30 per annum.

(2) *Health Visitor* (whole time).

Qualifications.—(*a*) The health visitor shall be required to have at least three months' training in a maternity hospital, or other special training in maternity work, and to hold the Central Midwives Board certificate. (*b*) She shall be required to have three years' training in a hospital (general or children's) of more than fifty beds, or an equivalent qualification.

Duties.—To be carried out under the supervision of the Medical Officer of Health :—

(1) Home visiting.
(2) Supervision of child welfare centres.
(3) Supervision of midwives.
(4) Any other duties the Central Committee shall determine.

Salary.—£100 to £120 per annum. £10 travelling allowance.

(3) *Clerk to Central Committee* (part time).

Qualifications.—Clerk.

Duties.—The general duties of clerk to a committee.

Salary.—£10 to £20 per annum.

Part-time assistance will be obtained from a medical practitioner for the medical consultations at the child welfare centres. Such consultations will be held monthly. The fee payable will be 10s. 6d. per consultation.

Voluntary helpers will be available for assistance at the centres, and to a certain extent for home visiting.

III. Home Visitation

(1) *Children up to the Age of Five.*—A birth having been notified, it will be the duty of the health visitor to visit the home within a month of the date of birth (*i.e.* as soon as possible after the tenth day). Subsequently, visits will be paid monthly up to the age of twelve months. During the remaining period visits will be made if possible twice yearly.

Where the mother attends regularly at the child welfare centres, home visits may not be considered necessary.

(2) *Expectant Mothers.*—No systematic visiting will be undertaken. Visits will be made to expectant mothers if requests to this effect are made by medical practitioners or midwives. Visits will also be made in cases coming to the health visitor's knowledge to encourage attendance at the child welfare centres.

(3) *Nursing Mothers.*—Included under (1).

Staff for Home Visitation.—The official health visitor, voluntary health visitors. To visit selected cases only, and in no case to pay first visits.

IV. Non-Residential Institutions to be provided by the Central Committee

Child Welfare Centres

(Also acting as Schools for Mothers)

Child welfare centres will be established in Alloa, Alva, Tillicoultry, Dollar, and other places where considered necessary by the Central Committee. Such centres will act as maternity and infant consultation centres, where medical advice can be obtained by nursing and expectant mothers, both for themselves, their infants, and their children under school age. The centres will also act as schools for mothers, where advice and instruction will be given on simple hygiene, cooking, clothing, and simple sick nursing.

It is hoped to form these centres in close co-operation with the School Boards, obtaining the use of suitable schoolrooms such as at domestic economy centres. It is also hoped to obtain the assistance from time to time of the teachers of domestic economy.

The larger centres in the burghs will be open one afternoon a week. It is proposed that there should be a medical consultation monthly, while the other afternoons would be devoted to the demonstrations indicated. The smaller centres which may be opened later in the villages would have a modified organisation.

The centres will also act as weighing centres, the health visitor keeping weight records and referring all infants who are not thriving to the medical consultation.

(*a*) *Arrangements to ensure Attendance.*—Mothers will be encouraged to bring their infants and young children to the centres by the health visitor.

It is proposed also to ask for the co-operation in this respect of the medical practitioners, school nurses, the district nurses, and midwives, as also in securing the attendance of expectant mothers.

(*b*) *Arrangements for providing Practical Instruction in Mothercraft.*—The health visitor will give practical demonstrations, arrange sewing meetings, cookery classes, etc. Demonstrations in sewing and cookery by trained teachers will be arranged. Talks to mothers on matters affecting their own health and the health of their children will be given by medical practitioners and nurses.

( ) *Arrangements for supplying Milk and Other Foods.*—(1) If it appears desirable, dried milk, virol, and cod-liver oil will be sold at cost price.

(2) In necessitous cases, milk, etc., may be supplied on special terms if a fund is available for this purpose.

(*d*) *Nature of Opportunities for Instruction to Nurses, Health Visitors, and Midwives.*—(1) Voluntary health visitors. Before acting in this capacity, ladies will be expected to attend the meetings at the child welfare centres for a period of at least six weeks, unless otherwise specially qualified.

(2) Nurses and midwives will be welcomed at all demonstrations, etc. No fee will be asked and no certificate given.

Day Nurseries

The need for these has not been established. If found to exist, their establishment will be considered favourably.

V. Residential Institutions of Voluntary Agencies proposed to be Utilised

The Clackmannan County Hospital, Secretary, R. Morgan, jun.

The Central Committee will endeavour to co-operate with the County Hospital in making provision for the treatment of prematernity cases requiring special care, and of difficult labour cases, and also for the treatment of sick infants and young children.

VI. Local Infant Welfare Committees

The Central Committee shall have power to appoint Local Infant Welfare Committees, being committees of voluntary helpers, under the chairmanship of a member of the Central Committee.

VII. The Provision of Domiciliary Medical Attendance

(Including the provision of assistance at confinement cases)

(*a*) *Children* (under five years of age).—In necessitous cases and in cases of acute illness where the infant or young child cannot be admitted into a hospital, and no medical attendance can otherwise be obtained, a medical card may be given by the medical officer at the infant consultation centre, or by the official health visitor. Every such case must immediately be reported to the Medical Officer of Health. Where there is no urgency, cases needing medical care which cannot be provided by the parents or guardians will be considered individually by the Medical Officer of Health.

(*b*) *Confinement Cases.*—Where the mother does not benefit under the National Insurance Act, and is not in receipt of parochial relief, and if the medical officer is satisfied that she is unable to afford herself any assistance for her confinement, the services of a midwife will be provided. Application will require to be made at least two weeks prior to the expected date of the confinement.

(*c*) *Expectant Mothers.*—Any expectant mother may make application to the health visitor for medical advice. Except in cases of urgency she will be seen by the medical officer at the child welfare centre, and if requiring special treatment will be advised accordingly. If such treatment cannot be obtained by her from a private medical practitioner or from a suitable hospital, domiciliary treatment may be granted by the Medical Officer of Health. In case of urgency, a medical card may be given as under (*a*), a case being immediately reported to the Medical Officer of Health.

A *medical card* will entitle the holder to one attendance from a medical practitioner.

Fees Payable to Medical Practitioners.—2s. 6d. per visit to patient's house; 2s. per visit of patient to the doctor's house.

Fee Payable to Midwife.—10s. 6d. for assistance at confinement and subsequent visits. No midwife will be employed unless she holds the Central Midwives Board certificate.

VIII. Supervision of Midwives

(*a*) The Medical Officer of Health will be the inspector of midwives, and will carry out inspections, etc., as required under the Midwives (Scotland) Act, 1915.

(*b*) The health visitor will be required to carry out inspections, make inquiries, etc., under the directions of the Medical Officer of Health, for the purpose of supervising the work of the midwives.

IX. Co-operation with Nursing Associations

The Central Committee will act in close co-operation with the Nursing Associations, and overlapping will be avoided.

It is expected that district nurses will report cases requiring attention, and will encourage mothers to attend the child welfare centres. In those homes where the district nurse is in attendance, no visits will be made by the health visitor till the district nurse relinquishes the case.

X. List of Voluntary Institutions and Agencies in the Area

(*a*) The County Hospital, Alloa.
(*b*) The Day Home, Broad Street, Alloa.
(*c*) The Alloa Nursing Association.
(*d*) The Alva Nursing Association.
(*e*) The Tillicoultry Nursing Association.
(*f*) The Dollar Nursing Association.

CLACKMANNAN COMBINATION SCHEME

XI. General Statistics of the District

(Not reproduced.)

2. *Conclusion: County Schemes generally.*—There are many detailed records of county schemes suggested or partially formulated or under discussion. In many counties, negotiations for the use of voluntary agencies and for the combination of county and burgh authorities are in active progress. Within a year, many of those counties will have formally approved schemes in full operation. But for the present we must be content with a few notes on the progress made in each locality.

CHAPTER LV

NOTES OF OTHER SCHEMES IN TOWNS AND COUNTIES

1. *National Policy.*—The subjoined notes show that several schemes have been submitted for approval, that some of them have been provisionally or finally approved, that others are under discussion, and that others are in preparation. In a few cases, notably in some of the large counties, it has been decided to do nothing until "after the war." If the argument of this Report has any validity, the postponement of schemes until after the war will disappoint public expectation. The Memorandum issued by the Local Government Board for Scotland and the regulations approved by the Lords Commissioners of His Majesty's Treasury are themselves a sufficient index of the Government's desire to place the welfare of mothers and children in the front rank of health administration. In this policy the Government has the support of every party in the State. Many of the Local Authorities have lost no time in their endeavours to realise the national policy. Of this, the schemes I have already sketched and the further notes given below are a sufficient proof. From the extraordinary interest shown in every quarter of Scotland, I can only infer that, where Local Authorities have decided to postpone all action whatever until after the war, the decision must be due to an inadequate realisation of the facts.

Airdrie Burgh.—Scheme approved includes provision for supervision of midwives through Medical Officer of Health and health visitor; one whole-time health visitor meanwhile; maternity and child welfare centre; weekly clinics; milk and food supplied in necessitous cases; special treatment centre; play centre under consideration; arrangements for sick mothers and children with Glasgow Maternity Hospital and Glasgow Hospital for Sick Children; proposed arrangement with convalescent homes at Cumbernauld, Dunoon, and elsewhere; voluntary health visitors assisting official health visitor; cases up to school age visited; proposal to provide certified midwives for home confinements; proposal to arrange course of instruction for mothers and young women at the Wilson Memorial Hall. In this small industrial town a large amount of work has already been done by voluntary organisations, which will now be brought into effective correlation with the Local Authority.

NOTES OF OTHER SCHEMES IN TOWNS AND COUNTIES

Ayr Burgh.—The scheme submitted by the burgh of Ayr includes the following : Medical Officer of Health as medical officer under the scheme and medical officer of the maternity and child welfare centre ; supervision of midwives by Medical Officer of Health, with health visitor as assistant inspector ; one health visitor ; maternity and child welfare centre ; special treatment centre at school clinic ; voluntary day nursery ; arrangements with Ayr County Hospital for treatment of mothers and children ; arrangements with three convalescent homes in county ; home visitation of births ; arrangements for assistance in confinements ; arrangements for mothers' classes at centre ; provision of milk and food to necessitous mothers and children. Certain elements of the scheme are still under consideration.

Ayr County and certain Burghs.—In the county of Ayr a scheme is at present under discussion by the county and burgh Local Authorities. In this scheme the administration of maternity service and child welfare is to be combined with the care of tuberculous patients and of school children. Three services that rest on three different statutes will thus be unified. The unification will be secured by a joint committee representing the county council, the county district committees, the burghs, the county insurance committee, the medical practitioners, the county nursing association, the local nursing associations, the county tuberculosis joint committee, and others—five members of this committee to be women. The committee will have administrative charge of the maternity and child welfare service under the Act of 1915, and the before- and after-care of tuberculosis patients as on the lines already arranged with the tuberculosis joint committee and the county insurance committee ; the school nursing as arranged with the Local Authority. In this way, the whole of these large services for this great county and all of its burghs, except two, will form parts of a single system. The area to be divided will be divided into suitable districts. Local sub-committees, including local interests, will be constituted. The sub-committees of adjoining districts will have power to arrange for the joint employment of nurses or health visitors. Where there is no local nursing associations in a district, local representatives will be appointed by the joint committee in that place. In this way, the voluntary nursing associations will have the support and co-operation of the county joint committee, and where no associations exist the official representatives will perform the same function.

The officers will include a full-time lady doctor, nurses on the staff of each local nursing association, such additional nurses or health visitors as each sub-committee with the sanction of the joint committee may consider necessary. Arrangements will be made whereby nurses or health visitors will visit such notified births as may be considered advisable, giving the usual instructions and directions. They will also deal with cases of measles and whooping-cough where required. Arrangements will be made with the Ayr County Hospital and Kilmarnock Infirmary for the treatment of special cases when the woman to be confined suffers from illness or deformity or when other circumstances exist involving danger to mother and child. Arrangements will also be made for the hospital treatment of school children ; for treatment in convalescent homes of children in impaired health ; for treatment of children with tuberculous diseases other than phthisis ; for

treatment at the various infectious disease hospitals of measles or whooping-cough where home treatment is impossible. Maternity and child welfare centres will be set up in convenient places in the county; probably one or more centres will be provided in each sub-committee area. The lady doctor will visit these centres at stated periods, when she can be consulted as to the health of mothers and infants as well as of children up to five years of age.

The chief feature of this county scheme is the economy of organisation implied in the combination of the three large medical services—maternity and child welfare, tuberculosis, and school inspection and treatment. The scheme has not yet reached the stage when it can be formally submitted for approval.

Bo'ness.—Scheme approved: Medical Officer of Health to act as administrative and executive officer and as inspector of midwives; health visitor to be appointed assistant inspector of midwives, to attend centre and to carry out home visitation; maternity and child welfare centre to be held in "Duchess Nina" Nurses' Home, health visitor to refer patients requiring further advice to family medical adviser or, in absence of such, to Medical Officer of Health; arrangements to be made to conduct a toddlers' open-air playground; arrangements to be made with Maternity and Sick Children's Hospitals, Edinburgh, and with some suitable convalescent home; class of instruction for mothers and young women; Medical Officer of Health to attend confinement cases where no medical practitioner engaged.

Clydebank.—Scheme approved by the Board includes a representative committee of Local Authority, working women, voluntary agencies, and medical practitioners; the Medical Officer of Health as head of staff; health visitors by arrangement for the services of school nurses employed by Clydebank and District Nursing Association; maternity and child welfare centre at Lesser Town Hall; special treatment centre arranged in combination with local School Board; arrangements proposed with Glasgow Maternity Hospital for complicated confinements; arrangements with Glasgow Royal Hospital for Sick Children; home visitation by the six health visitors of children up to five; in necessitous cases medical attendance to be provided by Local Authority; assistance provided in cases confined at home; schools for mothers and young women to be arranged with Local School Board; milk and food to be provided for necessitous cases at centres; assistant inspector of midwives appointed under Medical Officer of Health; question of organised play centres and convalescent homes reserved meanwhile.

Dalkeith.—Scheme approved for Dalkeith includes the following: Medical Officer of Health as medical officer under the scheme; appointment of fully qualified nurse trained in maternity work to act as health visitor and to attend to the health of expectant and nursing mothers and children under five; to call in family medical attendant or Medical Officer of Health where she considers attendance necessary; medical officer to be inspector of midwives; no child welfare centre to be established meanwhile, but later, if found desirable; provision made for providing necessitous women with competent midwifery attendance.

Elgin.—Scheme under discussion includes Medical Officer of Health as executive officer; visiting nurses by arrangement with district nursing association; child welfare centre at Victoria School of Science and Art; special

treatment centres in connection with school clinic ; arrangements with Gray's Hospital for treatment of mothers and children.

Dunbarton County : Western District.—Scheme under discussion includes supervision of midwives through Medical Officer of Health and health visitor ; medical officer superintendent of scheme ; one whole-time health visitor for district ; maternity and child welfare centre to be established in Alexandria ; special treatment centre in connection with school clinic under consideration ; arrangements with Glasgow Maternity Hospital and Royal Hospital for Sick Children ; home visitations of births ; provision of assistance in confinements when necessary ; proposed conference between School Boards to establish schools for mothers ; proposal to provide milk and milk preparations at centre.

Eastern District.—Scheme on the same lines under discussion.

Fife County and Burghs.—In the county, county districts, and small burghs of Fife schemes are under consideration. Discussion is in progress with a view to joint schemes in the various districts. Apart, however, from a formal scheme under the new powers, a considerable amount of health visiting is carried out in the districts of this county. The negotiations for joint schemes, however, are not yet at a stage when any useful statement can be made.

Forfar Burgh.—Scheme submitted includes Medical Officer of Health as medical officer under the scheme ; health visitor, who is also sanitary inspector ; arrangements with Forfar Infirmary for hospital treatment and with Bannatyne Home of Rest ; arrangements for assistance at home confinements. Other elements in the scheme under consideration.

Greenock.—In a carefully drawn report, Dr W. S. Cook, Medical Officer of Health, Greenock, has expounded the general conditions that affect motherhood and childhood in Greenock : the causes of infantile deaths, the economic conditions, the housing, the milk-supply, epidemics, feeding, clothing, etc. Greenock is exceptional in its conditions and in its history. It is a town of extreme contrasts and rapid changes, both of industry and of population. These are reflected in the lives of its people. The town is affected seriously even by the physical configuration of the land, because, for trade purposes, houses have had to be crowded on the low level. Greenock gathers into itself the problems arising out of its position as the largest seaport at the mouth of the Clyde, and, as it were, the pre-port of Glasgow. Like Leith, but more markedly, it combines the peculiar features of a seaport and the special problems always associated with groups of varied industries. It would take too long to analyse these conditions. It is enough to say that they justify the somewhat elaborate scheme suggested by Dr Cook.

This scheme will be under the administrative control of the Medical Officer of Health. It will include a lady medical practitioner, two maternity nurses or health visitors to continue the work of the lady doctor and attend the clinics for mothers and infants ; district nurses for home visitation of children from one to five ; a corporation midwife ; a limited number of voluntary health visitors ; clerical service in proportion. The institutions proposed include premises for outdoor clinics, beds for maternity cases ; beds for sick children and infants ; the use of the Gateside Fever Hospital ; the use of Greenock Infirmary ; the use of the Eye Infirmary ; a convalescent home ; a day nursery ; schools for mothers under the School Board. These.

it will be noted, include practically every type of institution suggested in the Board's general scheme. All these Dr Cook elaborates and justifies. When the scheme is fully developed it will include, either as directly provided by the municipality or as contracted for by them, institutions of all the types indicated.

For many reasons, Greenock continues to grow in importance as a town, and I have little doubt that this municipality will ultimately establish a scheme of the most comprehensive kind practicable. The Greenock visit of the Travelling Exhibition was among the most successful of the year's tour.

Haddington County.—Scheme proposed here is on same lines as for Midlothian.

Inverness.—Scheme suggested : Medical Officer of Health to act as administrative and executive officer and as supervisor of midwives ; health visitor to act as assistant inspector of midwives ; establishment of maternity, child welfare and special treatment centre, day nursery, convalescent home, malnutrition ward, maternity wards, food depôt, schools for mothers and young women ; compulsory notification of measles and whooping-cough ; provision of milk and food for necessitous mothers and children on certificate of the medical officer of centre. This scheme was rejected by the Town Council.

Irvine.—Scheme submitted includes the following : Medical Officer of Health as administrative and executive officer and medical officer of the child welfare centre ; one whole-time health visitor ; Medical Officer of Health as inspector of midwives ; special treatment centre ; day nursery under consideration ; arrangements with Kilmarnock Infirmary for treatment of mothers and children ; arrangements with Dundonald and Ochiltree Homes for mothers and infants in impaired health ; arrangements with Biggart Memorial Home, Prestwick, for children ; home visitation by official health visitor, assisted by voluntary health visitors ; provision of assistance in confinement cases at home ; instruction to mothers and young women at child welfare centre ; infant foods to be provided at centre on certificate of medical officer. Some other points under consideration.

Hawick.—Scheme under discussion : to include appointment of nurse health visitors, arrangements with cottage hospital and sanatorium, and other items on the usual lines. But scheme not as yet sufficiently advanced.

Kilmarnock.—Scheme under consideration : includes appointment of health visitor ; one nurse ; maternity centre for expectant and nursing mothers ; visitation of mothers ; day nursery at centre ; proposed arrangements with Kilmarnock Infirmary for maternity medical cases ; provision for home confinement cases ; proposed arrangement with School Board as to schools for mothers.

Kincardine County and Burghs.—Joint scheme approved : lady health visitors will be appointed, and arrangements will be made with the district nursing associations with a view to co-ordination of services in the principal localities. The County Medical Officer of Health will be chief administrative officer of the scheme.

Kirkintilloch.—Scheme under consideration : includes health visitor ; maternity and child welfare centre ; hospital treatment for mothers ; attend-

ance at confinements through local sick nursing society ; arrangements with Glasgow Sick Children's Hospital.

Lower Ward of Lanark.—Scheme under discussion : existing arrangements include health visitor to act as assistant inspector of midwives under Medical Officer of Health.

Middle Ward of Lanark.—In this very large county district a great amount has been done in providing for maternity service and infant welfare ; but it has not yet been possible to elaborate a comprehensive scheme. Such a scheme is under discussion. There are child welfare centres at Bellshill, Blantyre, and Cambuslang—three very populous areas. This is the largest county district in Scotland. In 1915, 1339 children under five years of age died in the Middle Ward. Obviously, there is abundant room for a great scheme ; but there are real difficulties of locality, staff, and institutions. Probably, however, no single county district has succeeded so well in establishing great public health institutions as the Middle Ward of Lanark. When it becomes possible to concentrate on a developed scheme of maternity service and child welfare, the scheme will correspond in scale to the other great activities of this county district.

Upper Ward of Lanark.—Scheme provisionally approved : includes appointment of Medical Officer of Health as inspector of midwives and appointment of health visitor who will act as assistant inspector of midwives. Larger scheme under consideration.

Leith.—The scheme submitted by Leith burgh has been formally approved. It includes the following : the Medical Officer of Health as chief administrative officer ; a lady doctor as medical officer under the scheme at a salary of £300 a year ; two health visitors ; the lady doctor to act as inspector of midwives, one health visitor to act as assistant inspector ; maternity and child welfare centre at Leith Hospital, clinics three times a week conducted by the medical officer under the scheme, health visitors in attendance ; existing day nursery to be available under the scheme ; arrangements with the Edinburgh Maternity Hospital for treatment of the types of case specified in the Board's Memorandum ; arrangements with Edinburgh Royal Hospital for Sick Children for children needing treatment ; home visitation by lady doctor and health visitors ; a certified midwife to be engaged by the Local Authority for necessitous cases of confinement ; maternity nurses to be provided in suitable cases by arrangement with Maternity Hospital ; food and milk to be provided for necessitous mothers and children on certificate from medical officer.

Under this scheme, the Local Authority has arranged to use their property at Bonnington House as a convalescent home for children. For the time being, the arrangement is experimental. Bonnington House lends itself admirably to the purposes of a convalescent home.

Midlothian.—The schemes submitted for the county districts of Midlothian include the following proposals : combination of the offices of health visitor, assistant inspector of midwives, tuberculosis visitor, and (if arrangements can be made with the Secondary Education Committee) school nurse ; this official to assist in other sanitary work, namely, by reporting conditions of domestic insanitation and assisting during epidemics of measles and whooping-cough ; essential qualifications, nursing experience and possession of C.M.B.

certificate, also sanitary or health visitor's certificate ; combination of Local Authorities suggested ; county to be divided into five areas of population from 14,000 to 19,000 ; a lady official qualified as above to reside in each area ; in addition, home visitation ; consultation centres to be established in populous places ; the centres to be used for advice of expectant mothers and nursing mothers, for child clinic, for tuberculosis dispensary and school clinic ; whole-time medical assistant to be appointed ; voluntary assistance to be encouraged ; County Medical Officer of Health to be responsible for carrying out of scheme. The Board have approved suggested combination.

Milngavie.—Scheme approved : Medical Officer of Health to act as administrative officer ; arrangement with local nursing association for part-time services of nurse to act as health visitor ; arrangements with Royal Hospital for Sick Children and Maternity Hospital, Glasgow ; arrangements with School Board for classes for mothers and young women ; provision of day nursery.

Motherwell.—The scheme submitted includes the following : Medical Officer of Health as chief administrative and executive officer and medical officer of the centres ; eight nurses belonging to the Motherwell Nursing Association to act as health visitors, contributions to be made to the Association ; child welfare centre, weekly consultations ; children requiring medical or surgical attention to be referred to family doctor ; schools for mothers and young women by arrangement with Dalzell School Board. The scheme, however, is still under discussion and may be extended in certain directions, for example, provision of hospital treatment for mothers and children requiring it ; home visitation of children up to the age of five ; provision of convalescent home ; and provision of assistance for confinements at home.

Paisley.—Scheme approved includes Medical Officer of Health as chief administrative and clinical officer ; assistant medical officer (male) and assistant medical officer (female) to be appointed, both as full-time medical officers ; two whole-time health visitors, third to be appointed as work develops ; medical officer to be appointed as inspector of midwives, with health visitor as assistant inspector ; maternity and child welfare and special treatment centres, with clinics twice weekly ; hospital arrangements for children from two to five with Biggart Memorial Hospital Home ; home visitation by the visitors' association section of Scottish Christian Social Union ; proposed schools for mothers and young women in connection with maternity centre ; arrangements with voluntary association for services of midwives ; other points under discussion.

Peebles Burgh.—Small scheme approved includes arrangements with local nursing association for visitation of all children under five ; provision of simple drugs and nutritious diet in necessitous cases ; provision of hospital treatment when required for complicated cases of pregnancy.

Perth Burgh.—Scheme approved : Medical Officer of Health appointed administrative and executive officer and inspector of midwives ; health visitor appointed to act as assistant inspector of midwives, to carry out home visitation, and to attend at centre ; maternity and child welfare centre ; arrangements with Perth Royal Infirmary, also with Pitlochry Convalescent Home ; school for mothers and young women ; milk to be provided in necessitous cases on the certificate of the medical officer of the centre.

NOTES OF OTHER SCHEMES IN TOWNS AND COUNTIES

Perth County and County Districts.—The County Medical Officer of Health, Dr Graham, has prepared the outline of a scheme, but it has been decided to defer consideration of it until after the war.

Some of the smaller burghs of Perthshire have come to the same decision.

Peterhead.—The scheme submitted and approved for Peterhead includes the following: Medical Officer of Health, administrative officer and medical officer of consultations; one part-time health visitor, an assistant health visitor to be appointed; health visitor to act as inspector of midwives; one midwife to be appointed under scheme at a certain fee per case; centre to serve for maternity and child welfare, special treatment, and day nursery; centre to serve also as consultation with expectant and nursing mothers; special arrangements for day nursery during the period of local herring fishing; arrangements with School Board for lectures or classes for mothers and young women.

Peterhead is one of the largest of the fish-curing centres. Periodically, it has to accommodate a very large temporary population. For some years, a committee representing Parish Council, School Board, Local Authority, and social workers has been active in this town.

Port-Glasgow. — Scheme approved includes appointment of Medical Officer of Health as inspector of midwives; appointment of lady doctor; health visitor; arrangements with existing tuberculosis dispensary to serve as (*a*) maternity centre, (*b*) child welfare centre, (*c*) special treatment centre, clinics to be held once a week; arrangements with maternity institutions; visitation of mothers by health visitor; provision of milk and food to necessitous mothers and children; school for mothers and young women.

This scheme is an excellent model of a scheme fitted for a small industrial town. The Local Authority co-operates with the Local Authorities in the counties. This scheme is part of the general proposals made by Dr Campbell Munro, county medical officer of Renfrew, and also Medical Officer of Health of Port-Glasgow.

Renfrew County and Burghs.—Proposals under discussion for a joint scheme of the Local Authorities of the Upper and Lower Districts and the burghs of Renfrew, Johnstone, Barrhead, Port-Glasgow, and Gourock. This large combination has been already partly arranged; but there are still some difficulties to resolve. The scheme of Port-Glasgow is an integral part of this larger scheme and has already been described. The schemes for the other localities will, as far as practicable, follow the lines of the scheme now established in Port-Glasgow. Under the scheme, the individual Local Authorities will benefit by the whole-time officials appointed for the combination and yet retain their local autonomy. When fully developed, this scheme will be one of the most comprehensive schemes yet proposed.

2. *General Progress of Schemes.*—The notes now given are not and cannot be exhaustive, because many Local Authorities are engaged in discussing schemes suited to their conditions, and, as schemes are being prepared or submitted from week to week, it is quite impossible to give a complete account of the present provision for the

welfare of mothers and children. All I can attempt to do by these notes is to show along what lines the larger and smaller Local Authorities of town and county are proceeding. It must not be assumed that the places omitted are doing nothing. Even where no schemes are contemplated, there is frequently some organisation for the supervision of mothers or children. I have restricted the notes to the places that have done something positive and substantial. Many other places have done something of a minor character to realise the purpose of the new statutes ; but, where schemes are only in contemplation, I have preferred to withhold details. In these rough summaries I have not separated small towns from counties. There is a growing tendency towards combination, and this, as I have said already, is a policy to be encouraged.

CHAPTER LVI

APPROXIMATE POPULATION REPRESENTED BY SCHEMES

If, now, we put together all the towns, including the large cities, and the county districts that have submitted schemes for approval, or have had schemes approved, or have at present schemes in preparation, or have schemes under discussion between themselves and the Board, or have obtained provisional approval for minor activities not inconsistent with more comprehensive schemes, we find that those Local Authorities represent a total population of approximately, 3,840,000—that is, about 80 per cent. of the total population of Scotland. This figure, however, is somewhat of an overestimate. It includes all the localities that have done anything positive, however small, towards maternal and child welfare. In many cases the Local Authority has merely appointed a health visitor; in others it has simply made an arrangement with a nursing association; in yet others, the provision may be even less. But in all the localities named in the list given below something positive has either been done or definitely promised. Only in a very few cases have comprehensive schemes been developed; but in all cases something has been done to make the development of schemes in the future easier. Even if we drop out the places where schemes are only under discussion or under consideration, we still have some positive work or definite schemes from Local Authorities representing over 3,135,000 people. In many of these, good schemes are rapidly being organised; in others, even where the formal schemes are delayed, the amount of work done is very great; in all, the Local Authorities, or the voluntary organisations, or both, are doing something systematic and substantial.

This result is very gratifying. It may fairly be taken to show that the Local Government Board for Scotland, in urging the Local Authorities to form the meeting-ground of voluntary organisations, have adopted a sound administrative policy. The Local Authorities, instead of superseding the voluntary agencies, are able to organise them to greater purpose. The voluntary agencies, instead of wasting

their efforts in futile rivalries either with one another or with the public authority, are finding their effects multiplied by systematic co-operation. As the schemes ripen by experience, the Local Authorities will learn to discriminate among the useful and the useless elements. In the administration of the grant-in-aid the Local Government Board must satisfy itself, from year to year, that the system established continues to develop along the lines found reasonable and practicable. A re-organisation that involves so many grave and complicated social issues must proceed slowly, here a little and there a little; for, to be secure, every step must be taken with the assent and the wish of the community to be served. And in no health movement of the last thirty years has the community made its assent and its wish more manifest. If, therefore, in some localities, the beginnings are small, they are at least signs of real intentions, and with the recorded facts before us, we have good ground for the hope that the Scottish Local Authorities will rise to the height of their great opportunity.

SCHEMES APPROVED IN WHOLE OR IN PART

	Population.		Population.
Airdrie, B.	24,014	Brought forward	881,186
Ayr, B.	33,504	Lanark, Co., Up. Ward	41,968
Ayr, Co. and Burghs	121,493	Leith, B.	81,178
Bo'ness, B.	10,862	Midlothian, Co.	73,310
Clydebank, B.	44,590	Milngavie, B.	4,530
Dalkeith, B.	6,757	Motherwell, B.	41,741
Elgin, B.	8,323	Paisley, B.	88,717
Dumbarton, Co.	49,898	Peebles, B.	5,425
Fife, Co. and Burghs	105,006	Perth, B.	35,851
Forfar, B.	10,084	Perth, Co. and Co. Dists.	60,437
Greenock, B.	77,695	Peterhead, B.	13,665
Haddington, Co.	43,254	Port-Glasgow, B.	17,219
Irvine, B.	9,940	Renfrew, Co. and Burghs	59,841
Hawick, B.	15,857	Edinburgh, B.	326,901
Kilmarnock, B.	36,625	Glasgow, B.	1,072,793
Kincardine, Co. and Burghs	39,062	Dundee, B.	178,574
Kirkintilloch, B.	11,911	Aberdeen, B.	164,307
Lanark, Co., Low. Ward	30,110	Clackmannan, Co. and Burghs	29,822
Lanark, Co., Mid. Ward	202,201		
Carry forward	881,186	Total	3,177,470

APPROXIMATE POPULATION REPRESENTED BY SCHEMES

Schemes under Consideration or Discussion

	Population.		Population.
Armadale, B.	4,749	Brought forward	378,223
Banff, Co. and Co. Dists.	59,211	Jedburgh, B.	2,571
Blairgowrie, B.	3,249	Kirkcudbright, Co.	38,367
Brechin, B.	8,439	Lochgelly, B.	11,201
Campbeltown, B.	7,211	Lanark, B.	5,809
Carnoustie, B.	5,358	Loanhead, B.	3,462
Coatbridge, B.	44,612	Maxwelltown, B.	6,068
Cove and Kilcreggan, B.	813	Montrose, B.	9,837
Culross, B.	464	Penicuik, B.	2,625
Dumbarton, B.	21,646	Rattray, B.	1,730
Dumfries, B.	15,408	Renfrew, B.	13,274
Falkirk, B.	34,066	Rothesay, B.	8,801
Forres, B.	4,212	Rutherglen, B.	25,412
Fraserburgh, B.	10,636	Selkirk, Co.	24,601
Galashiels, B.	14,172	Stirling, B.	21,266
Gourock, B.	7,652	Stirling, Co. and Co. Dists.	79,581
Grangemouth, B.	10,200	Sutherland, Co.	20,179
Hamilton, B.	38,853	Wigtown, Co.	31,998
Inverness, Co.	87,272		
Carry forward	378,223	Total	685,005

CHAPTER LVII

PRACTICAL PROPOSALS FOR THE FURTHER PROMOTION OF MATERNAL AND CHILD WELFARE

1. *Work of the Local Authorities.*—In conferring the new powers on the Local Authorities, Parliament has recognised the national character of all problems of maternity and child welfare. It follows that the first duty of the community is to secure that the new powers of the Local Authorities are exercised to the greatest practicable extent. If our long survey carries any lesson, it is that the existing agencies and organisations for child welfare, great and powerful as they are, cannot be regarded as adequate to their task. If they had been adequate, the new powers would never have been demanded or conferred. That the powers are not obligatory does not mean that they are to remain unused. The great Local Authorities have given a splendid lead; many of the smaller authorities have, in their degree, done equally well. But many authorities have not yet realised the magnitude and importance of the problems before them. Until they understand that a first duty of a health authority is to secure good conditions of life for mothers and children, the infant welfare movement will continue to be urgent, yet hesitating and casual. As soon, however, as the Scottish people bring the greatness of these problems into clear consciousness, they will lose no time in devising the best schemes that the public resources make possible.

But the statutory powers cannot be realised in a day. Every movement has to begin with the crude practical details that lie to hand. In what I have written, I have tried to show how those urgent and immediate duties lead on to others and yet others of the highest social importance. Here I propose to emphasise some of the ways of helping forward the child welfare movement and some of the larger practical problems that demand immediate consideration. The suggestions may be conveniently grouped under three heads: I. Education; II. Research; III. Institutions.

PROMOTION OF MATERNAL AND CHILD WELFARE

I. Education

2. *Travelling Exhibitions.*—The value of the Travelling Exhibition as a means of educating the people has been fully shown. The Exhibition ought to continue its work until all the principal centres of population have had the benefit of the instruction.

3. *Local Exhibitions.*—Already there are evidences that the localities desire to establish permanent exhibitions or museums of maternity or child welfare. In the large towns, local exhibitions or child welfare museums can be established without difficulty. Their equipment is not expensive. It is easy to procure a sufficiency of teaching materials, such as specimens or diagrams, or lantern slides, or samples of baby clothing and appliances, etc. There is hardly a small town in Scotland where such a local exhibition is beyond the financial resources of the locality. In the more remote areas the difficulties may be greater, but the urgency is not less. When schemes in town and county are arranged, the educational facilities will be multiplied.

4. *Rural Institutes.*—Recently, the proposal to establish rural institutes at the farms and farm villages has passed into a practical shape. The Board of Agriculture, with the approval of the Secretary for Scotland, has provided an organiser for a limited period. I have been in touch with the originators of this movement, and they assure me that, when established, the institutes may well become a centre of instruction in maternal and child welfare. Under the revised regulations of the Treasury, the Local Authorities are entitled to grant if they make arrangements for instruction in the general hygiene of maternity and childhood. When County Health Authorities develop their schemes they will, I assume, include such instruction among their first duties and utilise the rural institutes where these are willing to co-operate. If the rural institutes fulfil their present promise they will, I am satisfied, become most effective centres for local study.

5. *Housing.*—Housing, we have seen, has a most direct bearing on the lives of mothers and children. The Report of the Housing Commission has now been issued. I should like to see means taken to bring before all classes of the people the hygienic bearings of

housing on life. In this matter, questions of administrative policy are not important. But it is important that the prolonged researches embodied in this Blue Book should, by every practicable educational method, be brought to the knowledge of the greatest number of people. Doubtless, individuals interested in social welfare will make full use of the document; but I should like to see some sufficient body organise systematic courses of instruction in all the chief centres of population. This is a task that might well find place in the Continuation Classes of the School Boards; but it seems peculiarly related to the objects of the National Council on Housing and Town Planning. This council contains experienced administrators, engineers, architects, town planners, and many other varieties of technically trained men. They should find it possible to carry on for a period courses of instruction in all the great issues of housing as it affects the life of the family.

6. *Training of Health Visitors.*—At present the training of health visitors is unsystematic and unsatisfactory. The curriculum sketched by Professor Matthew Hay shows how important the health visitor has become in modern health administration. It is time that definite steps were taken to establish proper training colleges for health visitors. These colleges should be in touch with hospitals, maternity and child clinics of every sort, and the students should, like the students in training as teachers, have full access to all the institutions concerned in child welfare.

7. *Collation and Publication of Reports.*—In the course of our survey we have used materials from many reports by medical officers and others. These reports, however good they may be and however great the labour they involve, sink into the obscurity of the municipal minute book and are lost to the common service. I should like to see established some bureau for the collation and publication of selected administrative reports and documents. Possibly, the simplest proposal would be the publication of a year book; but, in any case, many special reports deserve and demand publication and cheap circulation. Such a volume of collated and criticised reports and papers would show in a way not otherwise possible the scientific and administrative progress of maternity and child welfare work in Scotland.

II. Research

8. *Need for Special Research.*—In the course of preparing this Report I have been impressed with the need for more research on special questions. The conditions of prematernity, maternity, and early infancy present some very large and innumerable small problems that only prolonged research can solve. These problems are partly pathological, partly clinical, partly sociological. They include topics like stillbirths, infantile senescence, malnutrition, the causes of monstrosities, the causes of prenatal death, the effects of syphilis, the effects of many obscure infections, the functions of the special glands as factors in growth, and a multitude of other problems. Some of these questions—for example, rickets and scurvy—are already under investigation from different standpoints; but many scientific observers consulted assure me that the fields of research opened out by the recent studies of prematernity, maternity, and childhood are very great and full of unanalysed difficulties. It would be easy to elaborate long and relevant programmes of research for the maternity hospitals, the sick children's hospitals, and the maternity clinics and children's clinics of every variety. Of no single section can we say that our knowledge is approximately exhaustive, whether we consider the facts statistically, or clinically, or pathologically, or sociologically, or administratively. A few of those questions Dr Ballantyne suggests in his special paper. Others are indicated in several of the special contributions, for example, those of Professor Matthew Hay and Dr Chalmers. Some are predominantly medical, some predominantly social.

9. *The Unmarried Mother and her Child.*—The whole group of problems centering in the unmarried mother and her child need a much more exhaustive sociological inquiry than I have found possible. Provision for the unmarried mother and her child is grossly inadequate and unsystematic. But the difficulties are enormous. These difficulties I have tried to indicate with some fullness in two special chapters. But, obviously, public discussion of the work of particular institutions has its limits. The records of special cases show how varied and widespread the problems of illegitimacy are. Our knowledge of them is of the most imperfect. For many reasons, easy to understand, the facts have struggled to

light in broken and unverified form. Few problems have excited greater interest in every department of social work; yet few social problems have been less subjected to careful scientific study. The materials are enormous; the best methods of research are yet to discover. So far as I have read, there has been no extended investigation into illegitimacy as a whole in Scotland, its extent, its distribution, its varieties, its causes, the provision for it, and the like. There is, it seems to me, a case here for a prolonged research by a group of skilled social investigators, who could make it their business to master the problem from all the important standpoints—physiological, biological, sociological, and criminal. The problem of the unmarried mother and her protection belongs to a world of immense difficulty; but to-day its handling cries aloud for statesmanship.

10. *Teeth in Nursing Mothers and Young Children.*—Of problems lying on the margin of medicine and general efficiency, probably the teeth problem is the greatest. The work of Dr Waller, in Poplar, shows conclusively the immense part that the mother's teeth play in the malnutrition of the nursling at the breast. Nothing could be more striking than the cases he discusses. The study of the mother's teeth is bound up with the whole problem of infant nutrition. There is room here for much technical research. As I have indicated in Chapter XIV, the usual theories of dental decay do not seem to me to take account of all the factors. The teeth problem has become too much a problem of specialists.

11. *Rickets.*—As the notes (see below) by Dr Leonard Findlay show, research on rickets in some of its aspects is proceeding. But research in this field has still much to accomplish. For practical purposes, we have not improved greatly on the treatment taught us in the university class-rooms of thirty years ago. Theories there are in plenty; directive science is still insufficient. The only inference we can make is that the peculiar conditions named rickets, scurvy, and scurvy rickets, have not as yet found their place in the circle of verified scientific ideas. Yet when one thinks of the enormous numbers of rickety children in Glasgow alone, one cannot but conclude that here is a problem deserving all the assistance that the State can afford. The elimination of rickets from the causes of disablement will be one of the greatest triumphs of science.

12. *Milk.*—In many sections of this Report the milk problem emerges. The work of Mr Stiles, Dr John Fraser, and Dr Philp Mitchell has been touched upon. The same methods of research ought to be extended to the provinces. So far as I am aware, nothing has been done in places like the island of Lewis to ascertain whether the milk is seriously infected with tuberculosis. Probably breast-feeding saves many of the young children; but we have no data to determine how far the cow's milk poisons the older children. It is not likely that the Edinburgh area stands alone, although this has been suggested. It is probable that other areas will reveal the same disquieting facts if the same thorough methods are applied. Until milk as a cause of infantile tuberculosis is definitely eliminated, we cannot well know what the next best step in the administrative control of non-pulmonary tuberculosis is.

13. *Feeding of Mothers and Infants.*—Our information on this point is very limited. The mothers' restaurants are few in number; the results have not been studied minutely; they have nowhere in Scotland been subjected to the scrutiny of physiological or clinical experts. A great deal is done practically in directing the feeding of infants and in providing infants with prepared milk. But we are far from bed-rock in this whole question. In view of the work done under the direction of Professor Noël Paton, partly by Miss Lindsay in pre-war time diets, partly by Miss Ferguson in war-time diets, I consider that more research is wanted.

The condition of the teeth has already been referred to as a factor in maternal and infantile disorders. This is closely related to the whole question of feeding.

Several years ago, Dr W. S. Aitchison produced an investigation into the poorhouse dietary and found that, frequently, the protein equivalent was too low, and that even small quantities of fat played a very important part. This is well enough understood as a general principle. But in special localities like the Hebrides, or parts of Glasgow, or rural villages, diet seems to me a very serious factor in the whole maternal and child problem. Unfortunately, the methods of investigation have not always been very practical. They have aimed more at purely abstract results than at practical guidance. Usually, too, the periods of observation have been too short. To my mind, nearly all experimental observations known to me on the

effects of diet are largely nullified by the shortness of the experimental periods. In such experimental tests, nothing less than six months' observation seems to me of much value. But in any investigation into the diet of mothers and children, the method would have to be for the most part observational and inferential. This is well exhibited in the latest Glasgow investigation (by Miss Ferguson) presented by Professor Noël Paton to the Edinburgh Royal Society (*Proceedings*, vol. xxxvii., 1916–17). As so much turns on minute ingredients of diet, and questions like rickets, scurvy, and other phases of malnutrition depend on special balances of fats, proteids, salts, and probably unknown ferments, I think there is a strong case for establishing fresh investigations, as well as for assisting those at present proceeding under Professor Noël Paton. Recently, Dr Chalmers has reported that several cases of scurvy have supervened since the war alterations on diet. How far this is verified I cannot tell, nor do we know whether it includes mothers and children; but there must always be a large number of ill-nourished children that lie on the scorbutic margin. Here, as in so many ranges of medicine, the ordinary doctor never sees a case until the malnutrition is so marked that it can be classified as "scurvy" or "scurvy rickets." But, like all such nutritional conditions, these are the climax of a long process. It is the history of the process that I should wish to see fully investigated. Then we should have some real guidance in fitting the food environment to the needs of the expectant mother, the nursing mother, and the child at his age of most rapid growth.

14. *The Children Act.*—The administration of the Children Act cannot remain unaffected by the new powers conferred on the Local Authorities. In the special chapter dealing with that Act I have given reasons for suggesting some investigation into the whole administrative position.

15. *Endowment of Motherhood.*—This title covers a large number of very indefinite proposals. It takes no overt account of the extent to which motherhood and infancy are endowed through the public services already available. Those services really are an expansion of the powers of the family and enable the family not only to secure better medical attendance, but also to obtain some relief from the too great concentration of family duties resting on the poor. This

endowment is, as it were, invisible. In what various ways those services operate may be gathered from the preceding expositions. If the mother is destitute and qualified to receive poor relief, the relief received is to that extent an endowment of the mother and her children. The endowment, it is true, involves certain conditions that make it largely inoperative even for qualified cases ; but in its essential nature poor relief of mothers with children is an endowment of motherhood. Where the Poor Law authority performs its full duty, a destitute widow with children receives from the poor rate adequate maintenance for herself and her children. In another relationship, the same proposition is true of the education authority, which provides free education, and in necessitous cases free nurture ; of the health authority, which provides hospital treatment of the infections ; and of the other public authorities that place any part of the domestic upbringing of children on the public funds, either as service or as money payment. In this sense, all the common services, to the extent that they relieve the burdens of the family, are an endowment of motherhood. The same may be said of the free or under-cost orphanages or related institutions.

These illustrations show that the principle of endowment is really implied in the existing organisations. But under the Insurance Act there is a visible as well as an invisible endowment of motherhood, namely, maternity benefit. So far as maternity benefit is a money payment, it is a direct endowment, placed within the control of the individual mother. To the extent that it is provided as service, it is, like the general health service, an invisible endowment. But in maternity benefit as a money payment, we come closer to the conception of endowment proper.

The new powers conferred on the Local Authorities for arranging for the health of mothers and children constitute still another form of the endowment of motherhood, namely, the full provision at the public expense of health service for mother and child.

In these illustrations, the principle is conceded that the mother and child as such have definite claims on the public services. On no other supposition can the various public services be explained. How far such services should be extended ; whether they should be converted into absolute rights without the disabilities at present attaching to poor relief ; whether, at any point, they should be supplemented by new services to complete the circle of the family's duties

to the children; whether they should be further supplemented by some form of direct payment either as maternity benefit or child benefit or mother's pension—these are all points for the detailed investigation of experts in the economics of industry and in the finance of insurance. From the positions argued in my Report, it is manifest that our provision for motherhood and childhood is scattered and undeveloped. On the other hand, any crude proposals for the direct endowment of motherhood may do as much harm as good. What I contemplate is a research that would take account of our whole administrative structure in its economic aspects and indicate possible lines for applying the concept of insurance or direct State assistance or some other variety of impersonal finance to the particular problem of motherhood and childhood. The incipient endowments—partly visible, partly invisible—already in operation demand detailed analysis to discover how far the principles underlying them are effective in the carrying out of the explicit objects of the statutes, and how far those principles may legitimately be used in further legislation.

From these standpoints, endowment of motherhood seems to me a suitable subject for research by an economist and an actuary. Possibly, the whole complicated group of practices might be investigated better by a Royal Commission; but, from my experience of other investigations, I feel that, where technical problems are the essence of the case, the investigation is rather for selected experts than for a Royal Commission proceeding on the lines hitherto common with such commissions.

On general grounds, the endowment of motherhood is a fit subject for investigation; but the special conditions resulting from the war raise it to a higher plane of urgency. The hypothesis is that, under present conditions, vast numbers of mothers have no adequate economic provision for the burdens placed upon them by motherhood; the objective is that by some form of endowment, the mother as such may, at least for her period of disablement, whether prematernal or postmaternal, be recognised as fulfilling an occupation essential to the State.

III. Institutions

16. *Scientific Investigation of Malnutrition.*—Of all the subjects encountered in this inquiry, the scientific investigation of malnutri-

tion in children has been pressed upon me most urgently. At an early stage of the inquiry, I received a short Memorandum prepared by Professor Lorrain Smith and Professor Ritchie, of Edinburgh University, and Dr John Thomson, Physician to the Edinburgh Royal Hospital for Sick Children. The Memorandum strongly recommended the provision of a ward for the scientific study of malnutrition in infants. This is work that could not be readily undertaken by a Local Authority under present conditions, and would not normally be undertaken by a sick children's hospital supported by voluntary subscriptions. Yet it is work that has the closest relation to public administration and to the treatment of children. In Scotland there is room for one or two institutions of the kind required. The promoters suggest that funds should be raised to provide and maintain a special pavilion for a period of ten years. The outlay would comprise (*a*) a furnishing grant, and (*b*) a maintenance grant roughly estimated at £2500 per annum.

The institution contemplated is, I understand, a scientific institution devoted to the investigation of the practical clinical problems of malnutrition. Such a proposal, coming with the *imprimatur* of three men distinguished in their special lines of medical work, seems to me deserving of every consideration. An institution of this kind would, of course, be purely national, and though, for convenience, it might be situated near a sick children's hospital, if a building site be available there, it should not be a mere part of such a hospital, but a department exclusively devoted to the specific group of problems.

In the institutions now existing, a certain amount of such scientific investigation is done ; but, with all the other claims on the energies of the medical and nursing staffs, the amount of investigation possible must be small in comparison with the amount required. The children's hospitals, if they are to meet the increased demands upon them, must be enabled to provide new accommodation. With increased admissions, the need for research will not become less but more. Yet the ordinary administration must continue to absorb the greater part of the energies of any staff, medical or nursing. That these considerations are not imaginary is shown by the remarks made in a letter from Robert Barclay, Esq., secretary to the Royal Hospital for Sick Children, Glasgow. On the specific question of research, he writes, among other things :—

"Some of the most pressing problems awaiting investigation in association with infant welfare are those connected with milk, and so soon as war conditions have passed away the directors propose to investigate these problems, to get their milk from a selected source and from tuberculine-tested cows, to investigate the result of treating with such milk as compared with commercial milk, and the merits of pasteurising, sterilising, etc. With this in view they desire to equip the hospital with a proper dairy, with plant for pasteurising, sterilising, and refrigerating, and a laboratory for the treatment of milk. I think all parties are agreed that the present milk-supply of the community is, taken as a whole, thoroughly unsatisfactory, and there is little doubt that much good should come out of the investigations. . . . At present there are so many varying opinions on the subject that careful research and investigation seems to be most desirable in the interests of the infantile community."

In some notes sent with this letter, Dr Leonard Findlay, physician to the hospital, records the kind of work at present undertaken by the hospital. He says :—

"During the past two years clinical investigations into rickets and tetany have been carried out. These researches have been of the nature of metabolism studies and examination of the electrical reactions and blood as part of a comprehensive experimental, clinical, and statistical investigation of these diseases which was undertaken on behalf of the Medical Research Committee of National Insurance scheme.

"Much time has also been devoted to the treatment of syphilis in the infant by salvarsan and its allies to discover the safest and most efficient method of administration.

"The work on rickets, so far as the metabolism and examination of the blood are concerned, will require to be continued, and further metabolism work with special reference to the respiratory exchange in tetany is in preparation.

"It is also proposed to investigate the condition of marasmus or malnutrition in infancy to find out, first, what proportion of these children are suffering from a secondary wasting due to some infective process, namely, pyogenic or tubercular infection of the lungs, urinary tract, or abdominal glands; and, secondly, in the cases of primary wasting it is intended to study the child's power of metabolising or utilising the various elements of the food, namely, protein, carbo-hydrate, and fat, by means specially of the respiratory exchange. For this purpose, a small ward with large room attached for setting up a respiration chamber is required; also some apparatus, and for the general chemical work the services of a qualified physiological chemist. The Physiological Department of the University will, doubtless, as in the past, give facilities for carrying out the chemical part of the work in their chemical laboratory."

It is, therefore, justifiable to say that many conditions of child life call for extended research, and that such research cannot be

satisfactorily carried out within the ordinary limits of hospital administration.

Of research as a whole, I should like to say that, in my view, the investigation of concrete practical problems—clinical, statistical, administrative—is the preferable line to follow. Investigation, even of living children, tends to run into over-elaboration of abstract scientific detail. This is not the type of investigation that is most urgently wanted or most fruitful. Our object is not to use the materials merely to ground interesting abstract theorems, but to guide the community in the methods of conserving the lives of mothers and children. The two objects are perhaps not incompatible; but it is common knowledge that they do not always tend to complement each other. There is abundant room and abundant need for detached scientific investigation; but, in this special section, the primary motive must be good practical results in the promotion of better life. From this standpoint, the materials for investigation are practically unlimited. All that is wanted is adequate ward accommodation for the children that need scientific care and laboratory facilities for the concerted investigation of their conditions.

17. *Malnutrition Hospitals.*—Some time ago, a lady doctor, who has had long experience of children and was fresh from a visit to some of the institutions in the South, said to me: "Whatever you do, stick to the idea of the malnutrition hospitals. They are the most important of the lot." By this she meant not simply a pavilion for the scientific study of malnutrition and the incidental treatment of the children, but hospital wards devoted to the special treatment of children suffering from marasmus or other forms of malnutrition. The photographs shown (pp. xxii and xxiii of illustrations) of badly nourished infants are alone enough to suggest how much work lies in front of the malnutrition hospital. Thousands of children suffer from malnutrition in one degree or another. Of this, our Report has furnished many telling illustrations. Every infant, however healthy at birth, is liable to suffer if his condition of nurture deviates from the normal. This is not a question of inheritance, although bad inheritance may be an aggravation; it is a question predominantly of environment. All the influences that go to cause bad health or feebleness in the expectant mother, or disturb the milk-supply of the nursing mother, or compel frequent alterations in the

diet of the child, or in other ways upset the child's metabolism, tend to produce malnutrition. Many of those influences are easily modified, and the malnutrition hospital is the simplest institution to secure the necessary modification.

Doubtless, as the schemes of child welfare develop, the conception of the malnutrition hospital will gather in force. At present the claims of acutely ailing children are too numerous to make any extended provision for malnutrition as such possible in the sick children's hospitals. The cure of malnutrition needs time, persistent attention, skilled selection of foods, regularity of management, and other services possible only in a specialised institution. In this matter, the medical world is of one opinion. The malnutrition hospital is only one way, but a supremely important way, of counteracting the evil effects of inadequate or perverted nurture.

18. *Maternity Homes.*—Our Report shows, by general argument and an extended consideration of the work done under maternity benefit, the Poor Law, and the voluntary institutions, that the accommodation for maternity is inadequate. Fortunately, the Local Authorities are empowered to spend rates on the provision of maternity hospitals. They can also spend on the provision of maternity homes. Both types of institution come into the Edinburgh, Glasgow, and Dundee schemes; but I am satisfied that, in all three cases, the demand for maternity accommodation both for morbid and for normal cases will increase. And it ought to increase. At present, except the Poor Law hospital wards, all the provision for maternity is voluntary or commercial. In size, the institutions are necessarily restricted by the constant need for fresh funds. They cannot be in any way blamed for this; neither can the universities, nor the medical men. Incidentally, the teaching purposes of the schools are served; but the public gets the benefit. But we have to come to such an extension that the purposes of teaching will be far outrun. As with infectious diseases twenty-five years ago, so with general diseases of children and maternity to-day, the movement towards institutions has effectively begun. I find that, wherever lying-in accommodation is provided, it is readily used. The administration of maternity benefit has, no doubt, helped this, and the new schemes will help it still further. The demand is pressing. In Scotland maternity accommodation is a rapidly

growing need. The local maternity centres will feed the maternity hospitals. As the education of the mothers increases, maternity institutions will also grow in popularity.

19. *Institutions for the Day-Care of Children under Five.*—In the seven chapters dealing consecutively with crèches and day nurseries, toddlers' playgrounds, play centres and open spaces, open spaces in cities, educational aspects of day-care institutions, correlation of pre-five and post-five play centres and playgrounds, kindergartens, I have led an argument to show that the day-care of children under five calls for special development. At present, as the details already given prove, the organisation of pre-school playgrounds and play centres is extremely unsystematic. It is important to preserve in this field the greatest possible degree of autonomy. Here, more than in any other section of child work, spontaneity of initiative, experimental testing of new ideas, and the encouragement of the natural specialist in children ought to be conserved.' The new methods continually arising in the minds of those responsible for toddlers' playgrounds, kindergartens, Montessori groups, and the like should have every freedom possible within our social conditions. To this end, it is important that all institutions for the day-care of children should be brought within a system that should combine full autonomy of all varieties of institution with the stability that comes of official support.

The Carnegie United Kingdom Trustees have formally intimated that they are prepared to provide equipment for playgrounds and play centres ; but to take advantage of such equipment it is essential that a responsible body should be established. If the conditions of autonomy and spontaneity are to be conserved, such a body might well take the form of a Civic Guild of Child Welfare. In such a guild, all the fit organisations and agencies that concern themselves with the provision of day nurseries, open spaces, and other equivalent institutions for the day-care of children under five might be represented along with the health authority. Such a civic guild of child welfare seems a suitable conception at least for the large cities and for the larger towns. In certain county districts it might be possible to set up an organisation of the same general constitution. But whatever form the new organisation takes, it should aim at preserving to the fullest extent the spontaneity, the originality, and the enthusiasm that mark the modern movement towards the better day-care of young children.

CHAPTER LVIII

NATIONAL INSTITUTE OF MATERNAL AND CHILD WELFARE

THESE, then, are our problems. They are seen to be various, difficult, and urgent. They cannot be put by. They demand analysis, thinking, constructive form. They involve study, research, teaching, and administration. In variety, they range from the advising of the expectant mother to the methods of constructing habitable cities; in difficulty, they cover social questions that no civilisation has anywhere entirely answered; in urgency, they rank among the first social issues of our time.

But in our studies of those problems one fact is manifest: the want of correlation of the social energies. To a certain extent, it is true, the schemes now passing into administrative form are achieving local correlations of the first value; but, as the knowledge of the maternal and child welfare movement spreads, community after community becomes conscious of a need for definite guidance. This the administrations, central and local, do, in some degree, afford; but, as I have repeatedly shown, the innumerable minor issues in a social movement so great must, for years to come, be left to the free initiative and invention of persons interested and skilled in social inquiry and in the true beginnings of education. If our national schemes are to bear full fruit, their essential factors must be brought into the clear consciousness of the community. This it is not easy to do. In the crowded expositions that form this Report I have tried to show how numerous our problems are, how various our administrative methods are, how much the community requires knowledge, teaching, and persuasion. All through the chapters I have felt that, however much official organisations may do, the public mind looks for some central organisation through which local and individual effort may find skilled direction and support, and so become living elements in the national purpose.

By the policy of the Carnegie United Kingdom Trust, a great opportunity is open to the Scottish nation. The trustees, after studying the reports prepared for them on the physical welfare of

mothers and children, are " prepared to consider favourably the cost of the acquisition or erection of a suitable building in London for the housing of a central bureau or institute of a national character, to serve as a co-ordinating agency for all its various local and other organisations connected with infant and maternal welfare in England and Wales, and of a similar central institution for Scotland. The Trust will, of course, need to be satisfied as to the constitution of the body controlling such a central establishment, as to its nationally representative character, and as to the resources available for its proper maintenance. The purpose of the proposed central institutes would be to assist the various voluntary and statutory bodies engaged in the subject in England and Scotland respectively ; it would not supersede them or encroach upon their proper spheres of local interest."

This splendid offer it is the clear duty of the Scottish nation to accept. A National Institute of Maternal and Child Welfare should represent all aspects of the problems we have here discussed or suggested. If established on the generous lines contemplated by the Carnegie United Kingdom Trust, it might serve as a central bureau of information, where any student could have access to books, reports, monographs, and studies of every phase of mother and child life. It would also be so equipped as to provide special direction on lines of study and research, to organise or arrange such researches as those already indicated, to be a central meeting place for discussions by experts, and to promote from all standpoints scientific investigation of the conditions most affecting the lives of mothers and children. It would also serve as a place where courses of instruction could be made available for unattached social students ; where special courses could be provided for officials employed in various departments of the health service ; where officers of the various branches of maternal and child welfare service could be trained through a full curriculum. To this work, now so clearly called for, the institute might add provision for the organisation of popular instruction by way of local exhibitions, or travelling exhibitions, or lectures, or demonstrations, or the loan of teaching appliances such as lanterns, or slides, or diagrams, or models, or other wanted equipment. It might arrange with the medical schools and colleges for technical courses in the various aspects of child welfare, so becoming, to that extent, an associated part of the Medical Schools. It might, too, arrange with the Arts

or Law faculties in the Universities to provide expositions of the legal and economic principles that underlie the various administrative proposals. Finally, it would naturally provide for the holding of periodic conferences and congresses of all the authorities and organisations concerned with the welfare of Scottish mothers and children.

Details of this large programme it is not necessary now to discuss. All I am concerned to show is that such an institute might become a centre for study, for research, for conference, and for propaganda. From these standpoints, it would serve to bring the local and scattered movements into free relation with national opinion. If our Report has any clear significance, it is this : the time has come for letting the many insurgent ideas for promoting the welfare of mothers and children benefit by free and informed discussion. These proposals the Carnegie United Kingdom Trustees have, by their offer, brought within practicable range.

But to realise these proposals a controlling body is necessary. It should represent the great cities, the counties, the towns, the universities, the medical schools and colleges, the great hospitals, and the other leading agencies and organisations concerned with the welfare of mothers and children. The membership of such an institute ought to include representatives of all the many organisations we have sketched in the Report. The nature of the constitution is for future discussion. The one essential to success is that the organisation of the institute shall be so broadly based as to secure an adequate income for the maintenance of its various activities. It will then be possible for the Scottish people to have the full advantage of the offer now made to the nation.

With every confidence, therefore, I make my last practical recommendation : that the necessary steps be taken without delay to secure to the northern kingdom a National Institute of Maternal and Child Welfare.

EPILOGUE

The war cloud dims our vision of the facts at home. But in war or peace, there is this constant struggle for a living and a life. To-day, it is the mother in her distress that needs help and care ; to-morrow, it is the infant new-born ; the third day, it is the talking and walking child. For, wherever the one or the other is found, the tale of inadequate service, of danger, of damage, of disease and death is nearly the same, varying a little in local colour but never in substance. This is what our rapid survey of Scotland suggested and what our analysis demonstrates. The need is permanent and creates its own administrative instrument—the common services. By these, the mother secures direction in her critical hours and the child multiplies his chances of life. The laws that supplement and support the innumerable impulses of philanthropy are not measures that can be formulated, passed, and enforced once for all ; they are themselves the means and symbol of a progressive and continuous organisation of the social energies, adjusting them in kind and in degree to all the phases of distress, disablement, and disease. The full development of the powers written in the law this generation will not see, but it is in this generation that they have taken their new form. In all the varying phases of these national problems—the concentrations of the people, the growth of institutions, the rise of new organisations and agencies—there is visible always one uniting principle : the need to preserve the life of the new-born child.

Men ask me, not for the first time : Is it all worth while ? The question finds many echoes, but no answer. If, in this long pleading, I have failed to convince, nothing I can say now will satisfy ; but, perhaps, in these days of a common sorrow, the cry of every mother's heart for her dead son will keep us to our duty :

> For as lone as thou liest in a land that we see not,
> When the world loseth thee, what is left for its losing ?

APPENDIX.—STATEMENT SHOWING THE BIRTHS, INFANTILE MORTALITY, DEATHS (0–1, 1–5

Scotland and Principal Towns.	Year.	Total Births.	Deaths.		Infantile Mortality Rate.	Principal Causes of Death (0–1 Years).								
			Age 0–1.	Age 1–5.		Measles.	Scarlet Fever.	Whooping-Cough.	Diphtheria and Croup.	Phthisis, Pulmonary Tuberculosis.	Tuberculous Meningitis.	Abdominal Tuberculosis	Other Tuberculous Diseases.	Bronchitis.
Scotland .	1911	121,850	13,707	7333	112·5	231	18	1034	75	37	279	177	99	958
	1912	122,790	12,949	7368	105·5	566	16	646	79	38	227	136	70	1026
	1913	120,516	13,214	7133	109·6	335	25	836	101	31	250	184	85	811
	1914	123,934	13,710	7148	110·6	371	45	665	85	21	261	155	74	942
	1915	114,181	14,441	9120	126·5	624	45	1229	74	31	247	111	70	1193
Glasgow .	1911	21,569	2,964	1900	137	64	3	269	21	5	74	32	28	203
	1912	21,850	2,686	1797	123	144	4	102	20	8	58	23	26	210
	1913	28,691	3,707	2426	129	129	4	318	32	6	77	41	26	219
	1914	29,462	3,913	2284	133	120	18	236	31	3	98	41	16	266
	1915	27,943	4,007	3151	143	274	10	397	26	9	53	27	11	320
Edinburgh .	1911	6,610	754	387	114	16	4	51	1	4	14	10	9	47
	1912	6,430	704	341	109	42	1	37	1	2	8	4	8	64
	1913	6,243	631	352	101	19	4	49	6	3	18	5	8	25
	1914	6,468	709	429	110	23	2	8	5	..	15	6	8	50
	1915	5,851	774	505	132	28	5	85	5	3	13	5	3	57
Dundee .	1911	4,290	672	272	157	..	2	39	3	3	9	15	7	60
	1912	4,126	665	400	161	43	..	21	4	5	13	19	2	57
	1913	4,061	657	297	162	12	1	3	7	2	7	10	2	52
	1914	4,451	603	288	135	22	2	14	8	2	10	12	5	21
	1915	3,899	819	617	210	31	..	130	4	2	15	9	4	70
Aberdeen .	1911	4,009	556	282	139	43	1	43	5	3	9	7	3	44
	1912	4,145	526	236	127	12	1	31	5	1	5	3	..	44
	1913	3,851	588	403	153	47	3	15	7	1	7	2	2	53
	1914	4,004	485	259	121	2	4	8	5	1	7	2	3	37
	1915	3,784	652	405	172	43	8	40	7	6	7	2	8	54
Paisley .	1911	2,167	243	157	112	1	1	33	1	..	3	..	..	22
	1912	2,272	211	162	93	13	..	9	1	1	4	2	2	24
	1913	2,193	259	143	118	7	..	12	..	2	9	8	2	21
	1914	2,388	318	147	133	12	..	15	..	..	1	2	2	27
	1915	2,089	221	201	106	16	1	9	1	..	2	2	3	15
Leith . .	1911	2,097	278	152	133	5	..	41	1	1	7	3	1	16
	1912	2,172	233	146	107	20	..	6	1	..	3	6	1	14
	1913	2,132	255	121	120	6	..	33	1	1	10	4	4	9
	1914	2,161	215	133	99	4	..	..	..	..	11	4	1	11
	1915	2,008	256	140	127	10	1	19	..	..	14	6	2	20
Greenock .	1911	2,306	260	168	113	3	1	13	1	..	8	3	4	24
	1912	2,390	285	203	119	10	1	10	1	2	10	3	1	18
	1913	2,395	279	222	116	5	2	20	1	3	8	3	4	21
	1914	2,550	276	169	108	8	..	13	1	1	8	4	3	10
	1915	2,292	333	224	145	10	1	27	3	..	16	2	7	27

APPENDIX

YEARS), AND THE PRINCIPAL CAUSES OF DEATH IN SCOTLAND AND 16 PRINCIPAL TOWNS.

				Principal Causes of Death (1–5 Years).												
Pneumonia (all forms).	Other Diseases of Respiratory Organs.	Diarrhœa and Enteritis.	Congenital Debility, etc.	Measles.	Scarlet Fever.	Whooping-Cough.	Diphtheria and Croup.	Phthisis, Pulmonary Tuberculosis.	Tuberculous Meningitis.	Abdominal Tuberculosis.	Other Tuberculous Diseases.	Bronchitis.	Pneumonia (all forms).	Other Diseases of Respiratory Organs.	Diarrhœa and Enteritis (under 2 years).	Congenital Debility, etc.
1380	170	1881	4647	625	213	1221	534	123	479	297	186	343	1223	153	425	53
1585	184	1138	4574	1293	235	736	484	113	443	319	175	300	1356	126	231	64
1308	167	1734	4732	891	280	922	438	102	491	319	156	268	1162	137	369	44
1416	177	1835	4913	990	393	641	529	92	464	316	159	302	1221	169	324	38
1860	228	1420	4615	1441	483	1504	493	112	437	262	140	402	1694	170	312	26
344	49	431	865	218	53	352	101	38	115	65	58	93	360	26	112	4
398	50	248	855	361	46	131	123	32	101	56	35	76	375	29	69	15
454	65	504	1144	413	84	411	116	34	143	86	38	87	417	45	133	13
456	66	575	1211	347	134	281	101	32	144	90	30	101	442	52	109	14
564	73	366	1147	619	162	591	109	38	126	64	35	156	574	68	95	9
96	9	84	250	45	10	62	32	7	35	8	13	7	71	9	11	2
86	13	37	251	84	2	41	17	7	35	14	17	14	57	5	1	4
62	12	59	226	40	18	70	16	4	29	14	18	7	58	6	9	..
63	8	84	272	81	24	4	52	3	31	22	19	9	86	10	10	1
110	15	62	220	69	29	83	75	3	19	9	16	19	89	9	7	1
68	..	126	220	2	5	51	23	5	11	15	12	14	63	3	25	3
65	4	103	214	75	8	43	30	10	24	20	11	13	74	1	22	6
60	4	142	223	27	7	5	20	10	28	17	8	23	59	..	24	4
41	3	125	233	46	12	15	18	2	17	14	8	12	57	5	21	1
78	2	132	233	85	9	201	22	7	19	16	4	27	129	3	25	..
54	1	49	177	71	11	32	15	5	21	4	5	8	50	2	8	..
62	6	51	178	23	15	31	19	4	15	6	2	7	50	3	10	..
58	7	61	178	89	14	29	64	7	19	11	3	4	73	2	12	1
44	5	74	167	5	26	4	71	3	12	8	5	7	32	3	13	3
84	10	70	169	95	80	25	30	8	16	8	6	8	55	3	14	1
16	1	41	81	1	7	44	6	1	7	5	5	18	17	2	12	..
19	4	22	64	34	3	19	7	1	6	9	5	9	22	1	7	..
23	..	47	83	17	2	21	4	2	8	7	2	7	23	1	9	2
30	3	38	124	30	11	14	6	2	7	4	8	11	15	4	5	2
25	2	22	82	23	32	16	30	3	9	7	1	12	25	3	7	..
42	2	28	80	12	2	31	23	6	9	6	6	5	28	5	4	1
36	1	22	73	26	2	12	13	1	10	5	4	5	37	3	3	1
27	2	30	71	18	4	22	4	5	12	3	3	5	22	2	5	..
24	2	29	78	25	10	2	8	7	12	4	9	6	23	1	3	1
34	2	18	70	20	4	10	10	3	16	6	4	3	33	1	6	..
25	..	47	95	11	8	18	4	5	14	8	2	12	44	1	10	1
37	1	20	99	37	25	13	7	..	15	8	9	6	40	1	3	2
30	3	39	101	27	10	27	10	4	10	9	8	12	47	1	10	..
28	2	40	107	21	1	13	7	2	16	11	4	17	34	3	12	..
38	2	41	106	43	4	28	9	7	14	3	4	8	50	3	16	1

STATEMENT (*contd.*) SHOWING THE BIRTHS, INFANTILE MORTALITY, DEATHS (0–1, 1–5 YEARS),

Scotland and Principal Towns.	Year.	Total Births.	Deaths.		Infantile Mortality Rate.	Principal Causes of Death (0–1 Years).								
			Age 0–1.	Age 1–5.		Measles.	Scarlet Fever.	Whooping-Cough.	Diphtheria and Croup.	Phthisis, Pulmonary Tuberculosis.	Tuberculous Meningitis.	Abdominal Tuberculosis.	Other Tuberculous Diseases.	Bronchitis.
COATBRIDGE .	1911	1390	194	86	140	3	..	4	..	..	1	2	1	16
	1912	1397	185	133	132	13	..	11	..	..	1	1	2	26
	1913	1392	176	94	126	3	..	8	2	..	2	2	..	17
	1914	1371	164	124	120	4	..	22	..	1	4	2	2	4
	1915	1229	158	113	129	2	..	3	..	..	1	..	1	12
MOTHERWELL	1911	1347	147	70	109	3	..	21	1	1	5	1	..	13
	1912	1326	138	79	104	8	..	7	..	2	3	..	..	17
	1913	1351	136	91	101	5	..	20	1	1	1	1	..	6
	1914	1292	130	79	101	8	1	4	3	..	4	..	..	9
	1915	1221	133	76	109	5	..	13	1	..	3	3	1	18
KIRKCALDY .	1911	964	94	65	98	2	..	5	1	..	3	1	1	11
	1912	990	89	43	90	1	..	4	..	..	1	2	2	4
	1913	984	120	67	122	1	..	9	..	..	1	4	1	11
	1914	1016	108	70	106	1	1	3	..	..	4	1	..	21
	1915	855	104	78	122	2	..	4	..	..	3	1	1	26
HAMILTON .	1911	1322	148	101	112	1	..	7	1	..	4	6	1	10
	1912	1332	150	99	113	11	..	8	..	1	6	3	1	11
	1913	1258	144	100	114	1	..	14	4	..	3	4	1	5
	1914	1318	156	81	118	11	..	3	1	..	1	1	4	10
	1915	1187	145	122	122	16	..	9	1	..	1	2	1	10
CLYDEBANK .	1911	1237	140	91	113	6	..	7	2	1	3	6	1	6
	1912	1368	133	67	97	6	1	4	1	1	3	3	1	8
	1913	1444	157	82	109	6	..	4	2	1	3	1	..	9
	1914	1375	150	85	109	2	1	5	1	1	5	2	..	12
	1915	1333	165	95	124	8	2	18	..	..	3	1	..	16
PERTH . .	1911	744	96	58	129	2	..	8	2	1	2	4	2	2
	1912	756	72	42	95	1	..	5	..	..	4	2	..	7
	1913	687	79	26	115	..	..	3	1	..	2	..	2	5
	1914	690	55	30	80	..	..	1	1	..	..	2	1	..
	1915	609	95	59	156	5	..	6	..	..	3	..	1	8
KILMARNOCK	1911	848	82	25	97	..	..	2	..	..	3	3	..	5
	1912	872	109	56	125	10	..	5	..	..	1	1	..	5
	1913	881	70	29	79	..	1	..	..	..	1	..	..	6
	1914	894	93	35	104	1	..	3	3	..	..	1	1	9
	1915	874	111	44	127	..	..	12	1	..	2	..	..	15
FALKIRK .	1911	1040	117	67	113	1	..	13	..	..	4	1	1	5
	1912	921	85	49	92	1	..	4	..	1	1	..	1	2
	1913	897	85	54	95	6	..	5	1	..	2	4	..	3
	1914	901	88	40	98	1	..	7	..	..	1	..	1	9
	1915	797	111	70	139	8	..	9	2	..	4	1	..	9
AYR . .	1911	863	116	52	134	3	..	6	..	1	..	2	1	7
	1912	907	85	52	94	2	..	12	1	..	2	..	1	3
	1913	849	83	51	98	..	..	..	..	..	1	2	1	5
	1914	860	116	71	135	7	..	1	..	..	3	1	1	4
	1915	752	99	59	132	1	..	13	2	1	2	..	..	5

APPENDIX

AND THE PRINCIPAL CAUSES OF DEATH IN SCOTLAND AND 16 PRINCIPAL TOWNS.

				Principal Causes of Death (1–5 Years).												
Pneumonia (all forms).	Other Diseases of Respiratory Organs.	Diarrhœa and Enteritis.	Congenital Debility, etc.	Measles.	Scarlet Fever.	Whooping-Cough.	Diphtheria and Croup.	Phthisis, Pulmonary Tuberculosis.	Tuberculous Meningitis.	Abdominal Tuberculosis.	Other Tuberculous Diseases.	Bronchitis.	Pneumonia (all forms).	Other Diseases of Respiratory Organs.	Diarrhœa and Enteritis (under 2 years).	Congenital Debility, etc.
21	..	33	70	1	1	1	7	2	5	4	3	8	21	2	5	1
18	1	24	60	38	4	14	6	..	5	6	5	7	20	..	7	..
21	4	16	67	7	3	10	2	..	9	7	3	6	21	1	1	..
21	..	15	59	21	2	26	1	..	11	6	2	2	13	4	7	1
22	..	19	74	13	9	3	3	1	6	5	3	7	36	..	2	1
10	..	23	43	..	4	17	9	..	6	6	..	..	11	..	5	..
19	1	8	44	24	2	9	3	..	5	4	..	1	18	3	2	..
7	2	22	44	13	8	28	4	1	7	5	1	2	8	1	2	..
11	..	25	38	7	3	6	5	..	14	4	1	..	13	..	1	..
15	..	19	41	8	1	12	6	..	4	4	..	2	22	1	2	..
4	1	14	37	2	3	9	5	..	7	4	5	6	7	3	..	..
10	1	4	39	..	3	5	..	..	7	4	..	1	9	..	..	..
7	..	15	54	8	..	7	5	..	6	12	3	6	5	..	5	2
6	..	7	43	2	2	3	10	..	5	2	4	4	11	3	1	..
9	..	5	29	12	2	5	15	..	6	4	..	4	14	..	2	1
14	3	25	47	12	2	6	10	3	4	6	2	2	17	5	8	..
23	2	13	51	24	..	9	5	..	3	8	2	4	25	3	..	1
11	2	23	56	15	1	19	8	1	7	5	7	3	14	2	6	..
15	1	26	53	17	5	1	6	2	3	3	1	5	15	2	3	..
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14	..	11	30	10	1	10	4	1	3	2	3	..	12	..	3	..

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ILLUSTRATIONS

Paisley (1). Hugh Smiley Day Nursery.

Paisley (2). Hugh Smiley Day Nursery, part of Playground.

Paisley (3). Hugh Smiley Day Nursery, part of Playroom. Children asleep.

Edinburgh (1). Canongate Day Nursery.

Edinburgh (2). An Infant Health Centre—Weighing Infants.

Edinburgh (3). An Infant Health Centre—showing Pattern Garments, Baskets for Clothes.

Edinburgh (4). Toddlers' Playground.

Edinburgh (5). Toddlers' Playground—" Just back from Humbie ! "

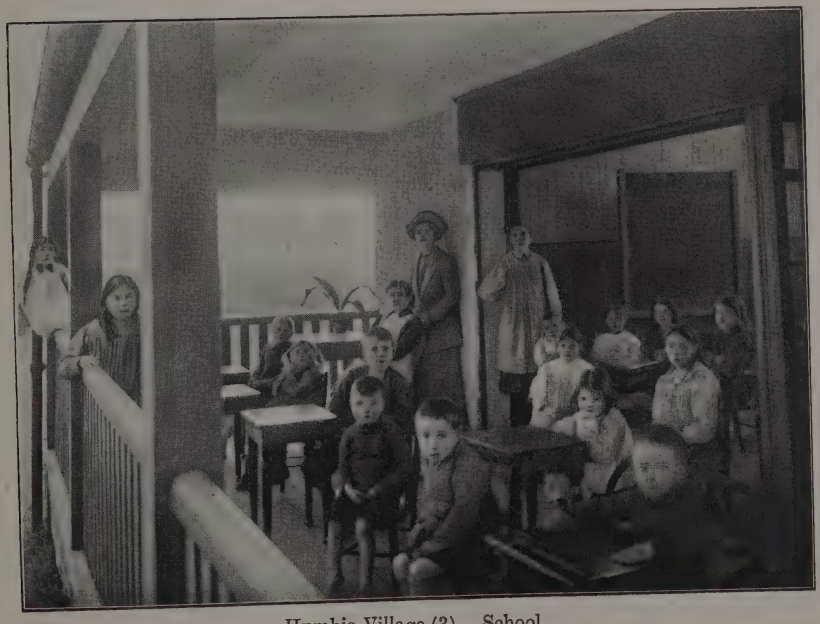
Edinburgh (6). Toddlers' Playground—Sand-pit Operations.

Edinburgh (7). Craiglockhart Poorhouse—Children's Day-room.

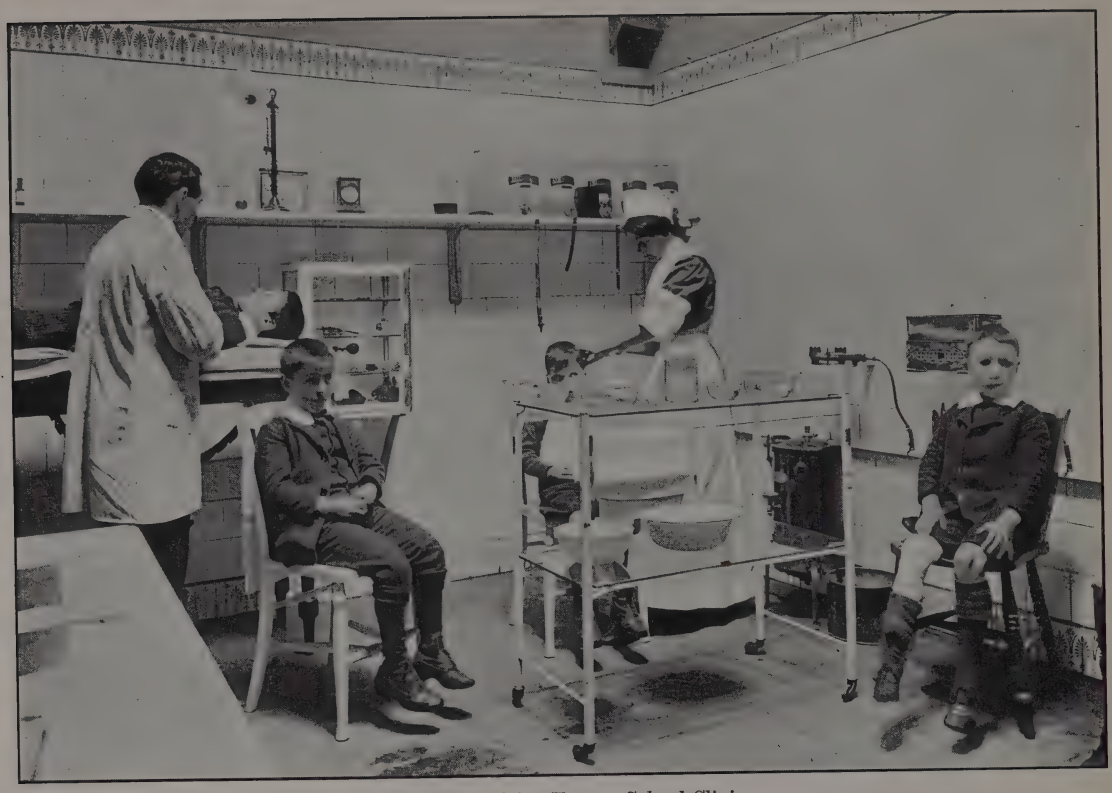
A Group of Caithness Nomads. [*Photo by Mr Macpherson, Thurso.*

Humbie Village, East Lothian (1). Showing general distribution of Homes, School, and Lodge, etc.

Humbie Village (2). One of the Homes.



Humbie Village (3). School.



Dunfermline (1). Former School Clinic.

Dunfermline (2). Child Clinic : Remedial Exercises and Massage Department.

Dunfermline (3). Infant Consultation Centre.

Dunfermline (4). Infant Consultation Centre.

Dunfermline (5). New General Clinic.

Dunfermline (6). New General Clinic.

Dunfermline (7). Infant Consultation Centre.

Dunfermline (8). Infant Consultation Playroom.

Dunfermline (9). Group of Children awaiting Treatment.

Dunfermline (10). Group of Children awaiting Treatment.

Hebrides (1). A Lewis (West) Crofting Township, showing great Congestion of Black Houses.

Hebrides (2). The same Township, showing great Congestion of Houses, Carts against Gables.

Hebrides (3). A Lewis Township of Black Houses, distributed by Roadside.

Hebrides (4). A Lewis Black House, showing Peat Smoke issuing by Door.

Hebrides (5). Typical Black House—no Chimney, no Window.

Hebrides (6). A Black House deserted on account of Death from Tuberculosis.

Hebrides (7). South Uist, showing Smoke issuing by Door.

Hebrides (8). One of the Older Houses in Benbecula.

Hebrides (9). A Group of Benbecula Boys; House with Built Chimney.

Hebrides (10). Lewis, Turf House.

Hebrides (11). Scalpay (Harris).
Island Nurse and Baby ; Black Houses.

Hebrides (12). Group of Scalpay (Harris) Children
and Island Nurse ; Modern House.

Hebrides (13). Tangles for the Cows

Hebrides (14).
Group of Lewis Children under Five.

Hebrides (15). Lewis (North), Infant.

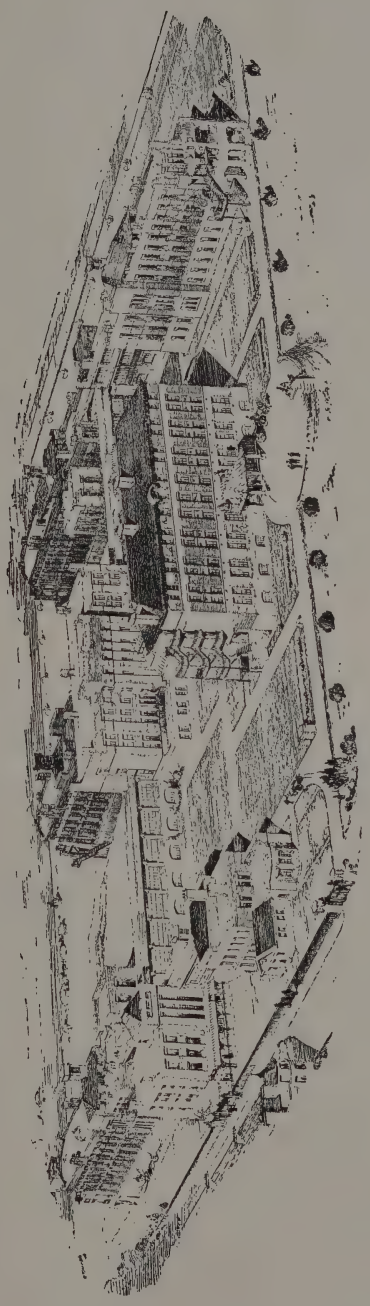
Hebrides (16). Lewis (North), Group of Children.

Hebrides (17). Lewis (North), Mother and Children.

Hebrides (18). Scalpay (Harris), a Group of School Girls.

Hebrides (19). A Lewis Infant with District Nurse.

Hebrides (20). A Lewis Group.



(1) Royal Hospital for Sick Children, Yorkhill, Glasgow.

(2) Dispensary—11 West Graham Street, off Cambridge Street, Glasgow.

(3) The Country Branch, Drumchapel, near Glasgow.

(4) Royal Hospital for Sick Children, Yorkhill, Glasgow. One of the twelve Wards.

(5) Royal Hospital for Sick Children, Glasgow. Open-air Treatment

Two Pictures. (1) On admission.

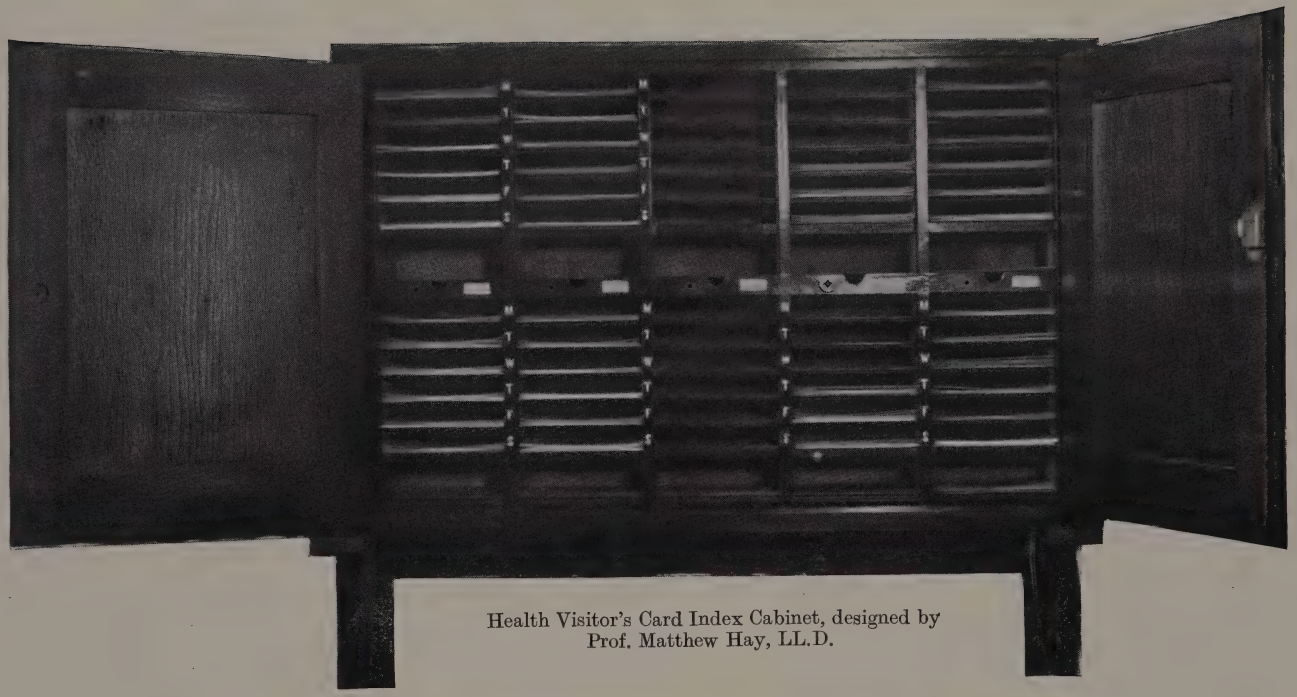
[*Photos by J. Campbell Harper, Leith.*

(2) Twelve months after.

Two Pictures. (1) On admission.

[*Photos by Dr Alex. Robb.*

(2) One month and four days after



Health Visitor's Card Index Cabinet, designed by Prof. Matthew Hay, LL.D.

Simple Milk Steriliser, designed by Prof. Matthew Hay, LL.D.

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NOTE

Two sections of administration I have refrained from treating: *first*, Venereal Diseases as affecting mothers and children; *second*, the working of the Mental Deficiency and Lunacy (Scotland) Act, 1913.

First: Venereal Diseases.—The recent Royal Commission, although a United Kingdom Commission, did not include a Scottish member, but took some evidence from Scottish witnesses. The report is so recent that it may be taken as showing the provision in 1916. The Local Government Board for Scotland has issued an Order requiring Local Authorities to submit schemes for the treatment of venereal diseases, and schemes are in course of being organised in all the principal centres, both urban and rural. Some years ago, Lieut.-Colonel Dewar, R.A.M.C., Medical Inspector under the Board, prepared a report on Ophthalmia Neonatorum. He recorded the facts available at the date. Ophthalmia Neonatorum is notifiable in a large number of Public Health districts. Its management is likely to improve under the new regulations of the Central Midwives Board for Scotland. But the incidence of venereal diseases generally among Scottish mothers and children is an unknown quantity. Any figures available do not represent the facts. I preferred to leave the whole problem alone except for this general statement. As schemes develop, some real data will emerge.

Second: Mental Deficiency.—On consulting Lieut.-Colonel John Macpherson, C.B., of the General Board of Control, I learned that, as the result of the war, the work of the Mental Deficiency Act had been more or less suspended, and that, in any case, the data for discussing the incidence of mental deficiency among children under five were fragmentary. I did not make any further inquiry, nor have I endeavoured to exhibit the operations of the Act.

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(This very imperfect Index may be a useful supplement to the somewhat full "Contents.")

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